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Third Prize Indian Game Cockerel (Firth Bros.).

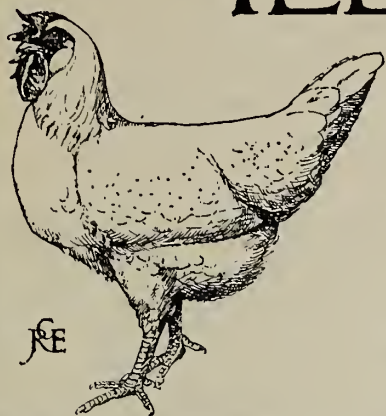
First Prize Buff Plymouth Rock Cockerel (Bolton Poultry Farm).

First Prize Toulouse (Bygott).

First Prize Rouen Drake (Bygott).

First Prize Black Minorca Cockerel (Webb).

THE ILLUSTRATED POULTRY RECORD



Vol. 1.—No. 2.

November 1, 1908.

Monthly Sixpence Net.

DIARY OF THE MONTH.

International Poultry Standards.

From time to time suggestions have been made for the drafting of an International Poultry Standard, to be adopted throughout the entire globe. The idea is very fascinating to those concerned. In these days of *ententes cordiales*, to say nothing of Hague Conferences, unanimity of thought and act is the dream of many. But as yet the suggestion is nothing more than a pious opinion, born of aspirations towards a state of perfection never yet attained, and it is necessary for the advocates to formulate a definite scheme by which such a proposal can be carried out. The practical difficulties are enormous, perhaps insurmountable. First and foremost, who are to draft the respective standards? If breeders in the country of the origin of any race are the deciding factors, would others be willing to accept their dictum? We should have to allow the Chinese to fix the type of the Brahma and the Langshan; our Dutch friends the Hamburg and the white-crested Black Polish; Italians to determine what is a Leghorn; and a cock-fighting Indian Rajah the real, simon-pure Game Fowl. Who would decide between the American and British Brahma, the French and English Houdan? It would be a lively conference at which these and a multitude of other points were discussed. But a more serious question is whether such an international standard could be applied. We submit the problem to the careful attention of breeders, and ask whether the same type can ever be secured under such diversified conditions as are found in, say, Scandinavia, Spain, and South Australia? Variation is a law of nature which must be taken into account and will not be ignored.

The Dairy Show.

Whatever may be the case with other big chicken fixtures of the year, there is not the slightest question of the importance of the Dairy Show. In Fancy circles it is looked forward to as an event at which the very choicest of the season's chickens will be staged, and to win at the exhibition is to score one of the most coveted honours of the year. The great difference between the early shows and the Dairy is that to be successful at the former the fancier has to hatch his fowls out of season, since to win early in the year the chickens must at least show forward growth. Not so the Dairy, however, and fowls hatched in March have often carried off premier awards, and at last month's show there were several instances of this. Many of the fowls were affected by the unusually warm weather, which, combined with their long confinement in the galleries, where the heat was almost unbearable at night, caused them to go into a partial moult. But those fanciers who exhibit at the Dairy are aware of the conditions under which the birds are staged, hence there is no room for complaint. From all points of view the 1908 show was a decided success, and not only was it interesting to the fancier but the purely utility poultry keeper found in it much that was pleasing and instructive, since there was on view a very large collection of houses, incubators, rearers, and other appliances.

Specialist Club Meetings.

During the first two days of the Dairy Show specialist club meetings were being held in every

corner of the hall, and we heard more than one prominent fancier complain that there were far too many of them. There can be no doubt that the Dairy is the best show of the year for getting a good attendance of members, while the private rooms and trade stalls provide meeting places such as would be difficult to find at any other show. Yet there is sound sense in the suggestion that, in order to relieve the pressure at the Dairy, as many meetings as possible should be held in connection with the Club shows. On the Wednesday afternoon, in particular, meetings were very numerous, and fanciers rushed from one to another, while in at least one case the secretary of one club looked in at another club's meeting in order to carry off those of his own members who were present. One of the harassed secretaries told us that in spite of its advantages the Dairy was a very difficult place to get a meeting together, owing to the numerous attractions of a like kind. There is, he assured us, invariably more time for such gatherings at club shows, but in his own case he had latterly found it necessary to hold meetings at both events, and sometimes at the Crystal Palace as well. Might we suggest that in future the pressure might be eased at the Dairy, if a few meetings were held on the mornings of the second and third days. The trouble arises through so many clubs choosing the convenient hours of 3 to 4 p.m.

A Dairy Show Incident.

An illustration of the necessity for the careful wording of show conditions was provided by the apparently insufficient definition of the new special class in the table poultry section of this year's Dairy Show. Although it was described as being "confined to farmers and cottagers, being *boni fide* rearers of chickens fed under natural conditions and not crammed," it is reasonable to suppose that the promoters of the class intended it to apply only to *tenant* farmers and cottagers; and, even if such was not their intention, the limitation is worth the consideration of the committee in the general interest of such producers. That a Peer was among the exhibitors, and that a Justice of the Peace and a principal landowner in his parish should have carried off a prize in competition with working farmers and cottagers in this class was probably never anticipated. It may be supposed that the entries were prepared by zealous poultrymen without the knowledge of the men in whose names the birds were exhibited. However, such undesirable competition would be prevented by the insertion of the word "tenant" in future schedules. The repetition of a somewhat similar *contretemps* at a Sussex show was obviated this year by the addition of the clause, "This cup can be won by a *bona fide* master chicken fatter only," it having

been carried off last year by a man of property. Unless all such classes are rigorously confined to those for whom they were originally intended, and with whom production is a matter of livelihood, the effect is discouraging, and they fail in their object.

Late Development.

The old complaint about the late development of cockerels is as loud as ever this year. Fanciers tell us that their birds never seem to have finished feathering; no sooner do they appear to within a week or two of perfection than they commence to grow a new hackle, and so we see the perpetual moulting of birds eight or nine months old. This kind of thing invariably happens during a wet autumn, and it can, apparently, be attributed entirely to the weather. So far as we have been able to observe, a dry and sunny period during the late summer favours the furnishing of early cockerels, and in such times birds ripen, as it were, without much trouble. But when the latter part of the summer is wet, the tendency is rather in the direction of continued growth than proper furnishing of the plumage, with the result that the birds continue to grow new feathers, especially in the hackle. We remember that three years ago a leading fancier called our attention to a cockerel that, although hatched in January, never attained proper condition during the whole of that year. The bird was shown at the Dairy, the Palace, and the club shows, and at each of these events he was growing a new hackle, and the comments of judges as reported were summed up in the words "not ready."

The Highland Poultry Commission.

We understand that the Departmental Committee on poultry-breeding in the Highlands and Islands of Scotland, to which we referred in our last issue, has completed its tour in the North and West of Scotland. That the work has been thoroughly done is undoubted, as Mr. James Murray, M.P., the chairman, and the Committee, are all keenly interested in those matters which affect the prosperity of the crofting community, and if it is at all practicable to encourage the poultry industry in the Highlands, we may rest assured that the recommendations for improvement which will ultimately be made will be along right lines. We can well believe that the trip was an interesting one, comprising as it did a visit to districts which are but little known to the average traveller, but at the same time it must have entailed an enormous amount of work. The Highland counties visited were Orkney, Shetland, Lewis, Tiree, Iona, Mull, Skye, Caithness-shire, Sutherlandshire, Ross and Cromarty, and Inverness-shire, but, to enable the Committee to contrast Highland with Lowland methods, a flying

visit was paid to Morayshire, Banffshire, Aberdeenshire, Kincairdineshire, and Forfarshire. Thus it will be seen that a vast area has been covered and practically every part of the Highlands and Islands have been brought under the direct observation of the Committee. It is to be hoped that no great length of time will elapse before the evidence, the findings of the Committee, and their recommendations, are made public, though we fully appreciate the fact that the Committee have before them even a harder task than that which they have already accomplished. The labour which will of necessity be spent in preparing the evidence and report will indeed be great, seeing that evidence was obtained from and visits paid to the yards of hundreds of poultry keepers.

An Educational Development.

Yet another agricultural college is interesting itself in practical poultry keeping. The Royal Agricultural College, Cirencester, have for some years past given theoretical training in poultry-keeping to their agricultural students, but we hear that they now intend to take up the practical side by keeping a few pens of utility fowls upon the farm. In the past practical demonstrations have been given once or twice each term at the Model Poultry Farm, Cirencester, owned by two old R. A. C. students, Messrs. Wilfred and Meredith Dobson. This farm will still be available for such purposes, as a variety of breeds are kept and all work is carried out in an up-to-date fashion, but at the same time it is felt by the college authorities that it will be instructive to run a certain number of birds, along with the other stock, under similar conditions and management to that found upon most farms.

Dealers' Rings.

Complaints have been received from chicken rearers in Ireland, relative to the alleged domination of some of the live poultry markets by rings of dealers; and that a very real grievance is involved appears evident from a comparison of the prices paid to the rearers in Ireland with those paid a few days later, for the same birds, upon their arrival at English fattening centres—a difference entirely exclusive of transit rates and reasonable profits and commissions. The increased dissemination of news affecting poultry producers, and the awakening of the industry in general, has impressed upon these rearers the obvious fact that the disparity between the price they receive and that which the fatteners pay is too great, and that the profits are altogether unequally apportioned in relation to the work of the producer and that of the dealer or middleman. It is, therefore, not surprising to hear from a correspondent of birds being taken home from markets where the margin

was too narrow for even an Irish peasant, and of endeavours being made to find more satisfactory outlets. The dealers should realise that conditions have considerably changed during recent years, and that it is a suicidal policy to carry the oppression of the rearer too far.

Oil on Egg Shells.

From time to time the theory has been put forward that one reason for artificial methods of hatching not yielding equal results with natural is that incubators do not coat the egg shells with the fine film of oil found when a hen has covered eggs. This has been scouted as nonsense, and there may be nothing in it. But that there is such a coating is evident, and nature has generally some object in all she does. The last bulletin issued by the Oregon Experiment Station, referred to on another page, affords us the first actual data in this direction. Chemical tests showed that on the shells of twelve fresh eggs there were only three milligrams of oil, and the same quantity on twelve china eggs which had been covered by a hen for a fortnight. On the same number of eggs taken from under a hen after two weeks' incubation there were 28 milligrams of oil, an increase of more than 800 per cent., whereas on a dozen eggs which had been in an incubator for the same time there were only 4.6 milligrams of oil. We shall refer to this question more fully later, but meanwhile ask our readers for the records of any observations they may have made in this direction.

Winter Eggs.

The annual problem of how to obtain the winter egg is once again claiming attention, and the methods, therefore, of a Sussex farmer, who is most successful in obtaining eggs all the year round may be of interest. He hatches every week in the twelve months to keep up a supply of table birds for a large private trade, and from each brood saves one or two pullets to come in for egg production as they mature. The layers are kept out in the fields, in low portable houses (built somewhat like the Sussex "arks," with open barred floors), twenty-five birds to each house, and are well fed. The soft food, composed of potatoes, house scraps, and waste vegetables, thoroughly cooked in a copper and dried off with sharps and bran, is given hot, and oats and maize are supplied as grain. The secret of success, however, seems to lie in the generous allowance of skim milk that the birds receive; it is taken out to them daily in the fields and poured into iron troughs, and is greedily consumed, the returns from the egg basket amply justifying the practice. The birds on the farm are all of a good table type, big-bodied fowls, with

large breasts and white legs, Light and Red Sussex and Buff Orpingtons predominating. They are maintained in good enough condition for killing at any time, yet considered as egg-producers they are eminently satisfactory both as regards number and quality.

Our Prize Competitions.

We would like to draw special attention to the numerous prize competitions, of which full particulars will be found in our advertising pages. The one that should appeal most strongly to the bulk of our readers is the £50 prize for the one who secures the largest number of subscribers to THE ILLUSTRATED POULTRY RECORD before March 31, 1909. The particulars of this important competition appear on page 3 of cover. It will be observed that the £50 prize can be taken in one of three ways, and we hope in this manner to appeal to a very large circle of readers. The prize of £5 5s. for the best drawing and the prize of £3 3s. for the best photograph are naturally more confined, but still we believe that they will appeal very strongly to many readers. We hope that there are many boys and girls who will avail themselves of the opportunity of winning the £1 1s. prize for the best essay on any Poultry Topic.

Our Acknowledgments.

We have to thank the public and the Press for their very generous reception of our first number. A considerable demand was expected, and every preparation was made to meet it in regard to the number of copies printed; in spite of which, however, there is at the present moment every indication that our estimate of what would be asked for will fall short of the mark. For the friendly assistance accorded us by the Press we must express our sincere gratitude. The total number of "notices" received is not yet to hand; but we may say that over a hundred have appeared in the leading papers of the country and that the note sounded by them is that of the keenest appreciation of THE ILLUSTRATED POULTRY RECORD and its aims. A most gratifying feature, too, of our reception is the number of letters and telegrams of congratulation from readers who, being genuinely interested in poultry, are in a position to recognise the value of a good thing; and it may not be inept to mention that among those readers are several of our prominent advertisers who, besides voicing their satisfaction with the journal itself, have already informed us of returns from their advertisements, that fully vindicate its claim to be considered a valuable medium. To all and sundry who have contributed to our encouragement we are most deeply grateful.

Among the many letters that we have received, those from Sir T. H. Elliott, Secretary to the Board of Agriculture, and the Hon. Sydney Fisher, Canadian Minister of Agriculture, are particularly interesting.

BOARD OF AGRICULTURE AND FISHERIES,
4, WHITEHALL-PLACE, S.W.

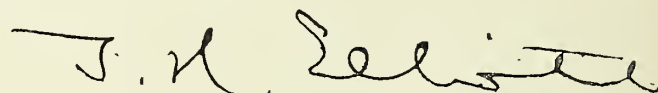
3rd October, 1908.

DEAR MR. BROWN,

Many thanks for the copy of the first issue of THE ILLUSTRATED POULTRY RECORD. It promises well, and should serve a very useful purpose. We will add it to the already long list of periodicals to which the Board subscribe.

I am more than ever impressed with the value to the Board and to agriculturists of the newspaper press. By its means we obtain much valuable information which would otherwise never reach us, we are kept *au courant* with agriculturist opinion to an extent which would otherwise be impossible, and much of our work would be sterile if it were not brought home to those for whose benefit it is intended by the periodicals which they read.

"Let them all come," and whether they cover the whole field of agricultural production, or special branches of it, as in the case of THE RECORD, I wish them all long life and the healthy circulation necessary for that end both to men and to newspapers alike.—Yours sincerely,



DEPARTMENT OF AGRICULTURE, CANADA.
Minister's Office.

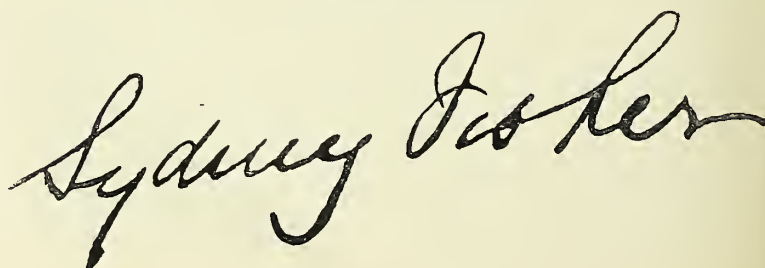
OTTAWA, September 28, 1908.

DEAR MR. BROWN,

It has just been drawn to my attention that you are about to publish a new poultry journal entitled THE ILLUSTRATED POULTRY RECORD.

This is a work in which I am personally interested, and one that I am quite sure you can carry out to a successful issue. You have a large field before you, and any assistance that I can possibly render you from time to time will be gladly given.

Wishing you all success, and with best regards,
Yours very truly,



POULTRY ON AMERICAN FARMS.

BY THE EDITOR OF "FARM POULTRY," BOSTON, MASS., U.S.A.

MY recollection of poultry on an American farm goes back to a summer—it must have been my third—spent at my grandfather's farm, ten miles from the Illinois town in which I was born. I remember going with my sisters, mother, and aunt to the farm of a neighbour, an invitation to remain to supper, and instantly on the acceptance of the invitation the calling of the dog. To the dog the young woman who gave the invitation pointed out a chicken running in the yard; he caught it, brought it to her, she wrung its neck and sent him after another, and another.

"Chicken" was then, and is still, on hundreds of thousands of American farms and ranches the fresh meat most generally used to supplement the staple salt and smoked pork in summer. The people on American farms thus acquire a habit of free (even to extravagance) use of poultry and eggs, which those, who, when they grow up and leave the farms, take with them to the towns and cities. That is why, even with the enormous and steadily increasing production of poultry and eggs, the United States is so little interested in the question of an export market for poultry products.

We say here that about nine-tenths of the poultry and eggs produced in this country comes from farms where poultry is kept in the ordinary farm way at little expense, with little attention. We use the

"nine-tenths" in this connection as a figure of speech just as we would say "nine men in ten" or "nine times out of ten." No one knows what proportion of poultry produce comes from such farm conditions. No one knows the value of our poultry products. The ordinary farmer, in the ordinary farm way, raises

as much poultry as is convenient, uses all the poultry and eggs he can, sells the surplus at the going price in his nearest market, and keeping no account either of what he uses or what he sells has little idea of the value produced. Even in sections where special attention is given to poultry-keeping, and it is on many farms the principal source of income, few farmers can give either the gross or net receipts for poultry and eggs. When producers generally know so little of the quantity they produce, and so much is consumed on the farm or sold to retailers or direct to consumers, it is impossible to get even an approximate value of the annual product. Statistics we have, but the more one knows of the conditions the



MR. J. H. ROBINSON,
Editor, "Farm Poultry," Boston U.S.A.

less disposed he is to accept statistics as trustworthy. It is throughout the great agricultural areas of the West and South that ordinary farm methods give most satisfactory results. In these sections the farms are large and farm houses with their outlying buildings far enough apart to admit of carrying large stocks of poultry on free range. It is in such areas

that poultry products are plentiful and cheap enough for liberal home consumption, and the surplus great enough to supply shortages elsewhere.

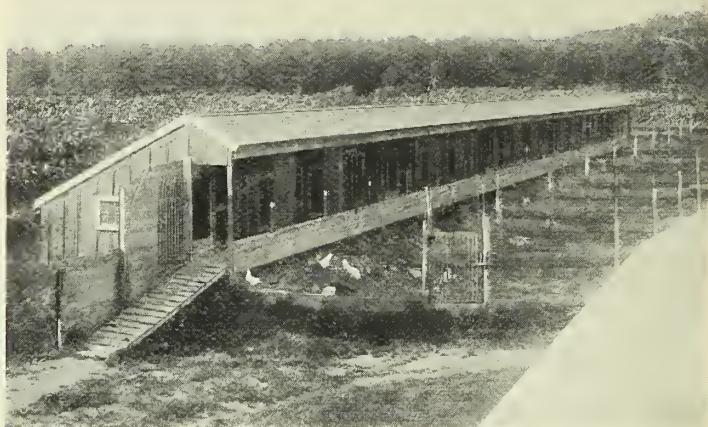
America is not, like England, concerned over questions of supplies or competition from abroad. America cannot, like France, Belgium, and other European countries that might be mentioned, boast of its exports of poultry and eggs, yet we have these questions here in a different form. With us they are internal questions, which seem vital to the people of localities affected, but awaken no response elsewhere.

Our manufacturing and mining States generally produce less poultry and eggs than they consume. The deficiency is made up by shipments from States producing a surplus. Sometimes in Massachusetts or California someone rises to call attention to the millions of dollars sent out of the State for poultry and eggs which might be produced within the State, and the admonition is useful in stimulating local interest and increasing the production of "nearby" products, but has no effect on the general situation, for supplies from the West and South respond naturally to demands and prices in the manufacturing and mining areas. A very slight increase in general production is sufficient to take care of a largely increased demand in the "importing" areas, while any hesitation in such areas, to take the quantities offered them is apt to lead to withholding of shipments and increased consumption in the "exporting" areas.

In sections where agricultural interests are first in importance specialising in poultry is rare. The commercial poultry plants sometimes started in such sections rarely continue long. There are localities in the West and South where a little improvement on, or extension of, ordinary farm methods adopted by the farmers of that locality generally enormously increases the production from that locality without subordinating other farm interests to poultry. It is mostly in the East that special poultry farms are commonly found.



A Turkey's Nest on an American Farm.



Continuous Poultry House (with walk in front), Reading, Mass.

The "soft-roaster" section of New England is in Massachusetts, within an hour's ride of Boston. Here, in a group of little towns including, with others, Norwell, Randolph, Rockland, and Hanover, the industry has been steadily growing for over twenty years, not a long time as compared with the age of some phases of poultry culture in certain localities in England and on the continent of Europe, but long enough to indicate that it is likely to become permanent in that locality. Under the name of "Philadelphia chickens" soft-roasters for the Philadelphia and New York markets have been produced in localities in New Jersey and eastern Pennsylvania for a long time.

The soft-roaster farms of the Norwell section are mostly small farms, for the older ones were bought and the industry established on them in the days when five to ten acres were considered ample for a poultry farm on which to make a fortune. While the business is confined to the growing of soft-roasters a great deal may be done on limited area, but if the grower undertakes to produce his own breeding stock and eggs for hatching, he soon finds farms with such acreage too small, and in any case he is apt to conclude after a few years that land is cheaper than labour and that it is an advantage to have enough land to extend operations when he can see a profit in doing so. At the same time, the fact that the growing of fall and winter chickens for soft roasters could be profitably carried on, on a small area, longer than egg farming or the growing of breeding stock, has tended to increase the numbers engaged in it.

Specialising in poultry farming in what is called the colony poultry farming section of Rhode Island goes back forty years or more. Here egg farming is a speciality. "Chicken" meat is produced only as a by-product in egg farming, though many of the farmers raise large flocks of geese, and a few raise ducks for

market. This section lies about the town of Little Compton, and though somewhat isolated has easy access to such good markets as Newport and Providence, and a little further away Boston and New York.

The farms here will probably average about 100 acres. Poultry is the principal farm crop, but dairying is quite extensively carried on, and a great deal of hay is produced.

The methods and appliances of colony poultry farming are as simple as can be. The system takes its name from the practice, adopted when farmers in this vicinity began to increase their laying stock, of multiplying the number of flocks each with a house

many farms where large stocks of poultry are kept on that system or a modified form of it. In many instances men who started by expecting to make a small fortune in poultry have learned to make a living from it in this way, and having the plant on their hands and nothing else to turn to are making the best of the situation. Occasionally a new plant of this type seems to flourish for a while, but where land is overcrowded the system is found profitable for only a very few years. The usual fate of the large intensive plant is to change hands every few years until its condition or its reputation is such that no one will take it.



SOFT ROASTERS AT RANDOLPH MASS, U.S.A.

of the original small size, and distributing these houses about the farm. The theory of the system as generally now explained is that the houses shall be far enough apart to give the fowls good range and that they shall be moved frequently to new locations. In practice these plans are often disregarded—with results depending upon conditions. I know of one field which has been “overcrowded” continuously for nearly twenty years without detriment to the fowls kept on it, but it lies so that it is frequently thoroughly washed by heavy rains.

Though the intensive system of egg farming may be said to have gone by in America, there are still

Long Island has been celebrated for its ducks and geese for many years. Duck-farming in America began there. The sandy soil and numerous small streams peculiarly adapt it to the growing of ducks on a large scale. Other things equal, I am inclined to think duck-growing is easier and more profitable under the conditions found on Long Island than on the “dry” inland duck farms. That ducks can be grown successfully and profitably on these inland farms cannot be disputed. Indeed some of our duck farms that have been most successful financially have been “dry” farms, but I think the same men on shore farms would have made more money.

Duck-farming is the one branch of poultry-farming which has often been made successful on a mammoth scale. We have a number of duck farms growing fifty thousand or more ducks a year, while "hen" farms with an annual production of 10,000 are rare. It is the opinion of some of our best duck growers that there is practically no limit to the number of ducks that might be produced by one concern save the limit imposed by the difficulty of keeping trained duck growers together. Proprietors find almost invariably that when a man has reached the point where they can begin to rely upon him he leaves

farmer grows geese, and the flocks are generally smaller. Some are fatted before being sold; others not. The lean geese are bought by fatteners in the East and fatted before being placed on the market. The goose fattening farms in the East are usually located in the territory where a good many geese are grown and the local crop collected in wagons, the buyer going in this way forty or fifty miles from his farm. These same buyers, when there is a shortage of the local supply, and to keep the plants in full operation after the local supply of early goslings has been worked off, buy geese from the West, from



LAYING HOUSE ON MR. BLANCHARD'S FARM, GROTON, N.Y.

them either to go into business for himself or to manage a plant for an owner, not himself a practical man.

The few farms known as "goose farms" in this country are mostly fattening farms. The growers of geese do not usually fat their own goslings, but either sell them from the pasture as soon as grown or send them to market in whatever condition they happen to be in at Thanksgiving or Christmas. The Rhode Island farmer who grows several hundred geese is probably most influenced by a desire to get them off his hands and out of the way of other stock, but through the West and South-west only an occasional

Canada, and from Prince Edward's Island, which is noted as a goose-growing country.

The turkey crop of America comes mostly from the farms of the West and South. Rhode Island turkeys were once famous and the name still stands for prime quality in turkeys, but the turkey production of Rhode Island and Eastern Connecticut has dwindled to almost insignificant proportions. Vermont and parts of New York produce a good many turkeys of excellent quality, but it is in the valleys of the Alleghany Mountains and on the grain farms of the West that conditions most favourable to turkey-growing are found.

JOHN H. ROBINSON.

THE E.S.D. OF POULTRY KEEPING



PROBABLY there is on no subject such divergence of opinion as upon the profits to be derived from poultry-keeping. On the one hand we have statements that £200 a year can be made by anyone from keeping poultry, and on the other many writers say that it is the shortest road to ruin; both of which are equally ridiculous. The truth lies somewhere between the two. Why poultry-keeping should be looked upon as a refuge for the destitute it is hard to conceive. Why that kind of stock should be supposed to need no previous training it is not easy to see. Any business dependent upon live stock needs exceptional management, and the smaller the stock and the greater numbers in which it has to be kept the more experience is required. It takes years to make a good farmer with large stock. Poultry needs more care and attention to detail than most people have patience to give and also suffers sooner from neglect. There has been a great deal of money lost in poultry-farming, and this chiefly from two reasons. The first is that people will start in too large a way without previous experience. I had a letter from one in difficulties, and he had made the mistake of starting in thousands instead of in tens. All the successful poultry farms in this country began in a small way. I have watched the growth of many

of them. Many a rebuff they met with during the first few years, but they have gone steadily on, learning from that best and hardest of teachers—experience. “Through Failure to Success” might be the motto of many. I met a gentleman a few years ago, who at one time started a huge poultry farm, knowing nothing of the business. He told me he lost £7,000 over the venture. The same farm is now being carried on successfully by a man who went to an existing prosperous poultry farm to learn his business. I know well another large poultry farm which has sprung into world-wide notoriety in a few years, and here again the owner went as a pupil to a practical poultry man getting his living at the trade.

All businesses fail when people rush madly into them without some kind of apprenticeship. Why should poultry-farming be exempt? If a young man wishes to go into poultry-farming he should spend a year as a pupil on a successful place, then, if his pride will let him, go as a paid working poultryman for a year, after which he may start in a small way and gradually work up. The amateur is too apt to think that, because he has been successful with a score, he is fit to manage hundreds. But the difficulties increase with the square of the numbers kept. Horses and cattle

thrive as well in large herds as in small ones. Sheep flourish much better in small flocks, and soon taint grass-land if run thickly. It is significant that the wild ancestors of the two former lived in large droves on the plains, where food was plentiful, while the ancestors of the latter lived on mountains, where food was sparse, and had to be thinly scattered. So the Jungle fowl was never found in large flocks, and that is probably the reason why poultry-keeping in quantities presents such difficulties. We know that one hundred fowls on half an acre of grass will taint it seriously in one year, while if the land is wired into ten runs and the fowls kept in ten lots, the land will remain comparatively sweet for years. It is, however, difficult to assign the true reason. Anyone who can make ten fowls answer will do the same with a thousand, provided they are kept under the same conditions as the ten and have equally good management.

The second reason why poultry-keeping so often fails is that with stock requiring daily, nay, hourly care, it is almost impossible to find paid servants who will take the trouble required. This has been one of the difficulties on large poultry farms, and most are dependent on men whom they have trained up from boys on the farm. A friend of mine, who has successfully built up a large business, is so convinced of this that he makes his interests their own and works on a profit-sharing basis. When this is not done, it is essential that the owner and his family do the most important part of the work themselves, viz., the hatching and rearing.

Some years ago, when editing "The Book of Poultry," the late Mr. Lewis Wright asked me to get him reliable information as to the profits from poultry-keeping on land devoted to general farming. The evidence of many large poultry-keeping farmers was collected. It was found that in nearly all cases the manure was considered a fair set-off against labour that the profits were made from keeping laying hens rather than from rearing table poultry, and that the average profit was 5s. per head. One made a profit of 7s. per head the first year on 222 hens, over 5s. the second on 372, and 4s. the third year on 440. He attributed the falling off in the third year to his inability to attend to the birds himself owing to illness, and no doubt that made a difference, but possibly the increasing numbers had not had proportionate accommodation, and in any case the land could not be quite as sweet in the third year as at first. It is well known that fowls never do quite so well in such circumstances as on land where no others have been. All this is of interest, but I do not think that anyone who has gone fully into the question has doubted the profits from field birds run thinly in conjunction with other stock, where the absence of foxes and thieves has

rendered the colony system possible. As they do no damage to the grass when run at the rate of about fifteen to the acre, and as the land improves each year where they are kept, no rent is chargeable. The quantity of animal and insect food found materially reduces the corn bill during half the year, so that we should expect fowls to pay under these conditions.

But what the public rather wants to know is whether it is possible to make fowls pay on small spaces devoted entirely to poultry. All the greatest profits I have met with have been from pure breeds and first and second crosses, probably because anyone who is businesslike enough to keep books accurately will not be satisfied with mongrels. The very highest profit I have met with, in all cases excess of sales over food bill, is 10s. per hen. A lady in Warwickshire managed it in small runs by the side of the garden wall, with the use of a lawn for chicken rearing, with Black Minorcas. At different places in Worcestershire it has been reached with White, Black, and Buff Leghorns. In Lincolnshire, in lots of fifteen, in wired pens on garden soil, it has been reached by White Leghorns and Buff Orpingtons and re-crosses from the pullets by a White Leghorn. It may be said that the 60 birds, which realised a gross profit of £30, were all descended from one exceptional Buff Orpington hen which produced 200 eggs during her first laying year, this high average being maintained by the whole of the flock bred from her. These extraordinary egg averages are never kept up by large flocks, nor is this necessary for a fair profit to be produced. Not that anyone should rest satisfied. Hens pay very well indeed at a 150 egg average, and all the eggs beyond that are practically extra profit. All other expenses except food remain the same whether a hen is laying 150 or 200 in the year, and even that item differs but very little. I know a man who has made a good living from laying hens for eight years on ten acres of land. Most of the field is wired into pens, so that the hens are kept in separate flocks, and even the chickens are reared in movable wired runs, so that the whole of the land is not being fouled at once. He keeps about 600 laying hens, chiefly of the light breeds and then crosses. He rears enough chickens to keep his stock young and markets the cockerels as early as possible, often sending them to the auction in crates of a dozen when worth 1s. each. As he says himself, he rears for the pullets, and the cockerels are in his way. There is so little profit, if any, attached to them that he wants them cleared. He is a good business man; he buys his corn direct from the farmers in large quantities, has an oil engine and good food preparing plant, and markets many of his eggs retail. He does the whole of the work himself, including carpentry. His hens leave 4s. to 5s. a year profit behind them, and this

without attaining to very high egg averages. He had to give up a town life, which was undermining his constitution, and in poultry-farming has found a comfortable livelihood, and, what is of more importance, the unpriceable boon of health. Not that all would do as well as he has. He is an exceptional man and makes very few mistakes. His houses are large and well ventilated, much upon the Tolman style; the corn used is the soundest and best procurable, and everything is planned so as to keep the birds clean with the least possible labour. He, like most of the successful poultry farmers, makes all his houses at home and, like most other successes, keeps at least half Mediterranean blood in his stock. I have dwelt at some length upon this case, as he is a purely utility man; he sells no eggs for setting and no stock birds.

It is not easy to gauge the profits of some of the breeders of high-class show stock. I know several where they must run to many hundreds a year. These are only the men who have a natural aptitude for breeding, so that they are able to keep

in the very front rank in the large shows year after year. Many fanciers are men in various businesses, who keep poultry for the pleasure it affords, and if, at the end of the year, the balance-sheet is on the right side they are well satisfied. If one can keep at the top or near it, the poultry fancy has more to offer than any other branch, but the second class pure-bred trade is done to death. Those who cannot rise above mediocrity in fancy poultry had better confine themselves to producing meat and eggs. Perhaps the most remarkable thing in the poultry trade of late years has been the rise of several large farms which do not claim any show points for their birds, but rest their merits solely upon improved productiveness. These have taken on with the general public to such an extent that 20s. to 30s. is by no means an unusual price for a stock bird.

Poultry-keeping in its various branches offers a fair living and something over for those who are business-like and energetic and have taken the pains to learn the trade before embarking upon it. It is, however, no asylum for the idle and improvident.

THE POULTRY INDUSTRY IN PROSPECT.

By EDWARD BROWN, F.L.S.,

Secretary National Poultry Organisation Society; Lecturer in Aviculture, University College, Reading.

BUILDING castles in the air is an easy and fascinating pursuit; sometimes decried but necessary to progress. We must dream dreams, and form mental structures which perhaps in their fullest degree will never have any realisation; yet so far as they are afterwards constructed are of the greatest value. Some time ago I stood in front of the great Cathedral at Milan, and realised that the architect must have seen every pinnacle before a single stone was laid, and the same is true in all departments of human life. Looking forward is essential to progress, but must be followed by action. As the poet Lowell has said:

New times demand new measures and new men;
The world advances, and in time outgrows
The laws that in our fathers' days were best.

What we want is construction, not destruction, and those who build up must ever be looking as far as possible along the road they are travelling. We want criticisms, as they help us in revising our ideas, but the critic who is merely fault finding and does not attempt to substitute better methods is a hindrance and not a help.

That the extension of the Poultry Industry is imperative cannot be questioned. The growing demand for poultry produce in every part of the

civilised world is very great indeed, and the opportunities in this direction are almost beyond our comprehension. Much has been done in the past, but more remains to be accomplished. Taking the United Kingdom, it is desirable to enquire what can be done by farmers who are already upon the land. Soon we shall be better able to know the actual number of fowls in Britain, but for our present purpose it may be accepted that there are fewer than 1,000 fowls per 1,000 acres of cultivated land in the larger island. In Ireland the statistics for 1908 show that there were 1,378 per 1,000 acres of cultivated land, and at any rate we can work upon these figures. No better time could possibly have been selected for looking into the future. We are now beginning a new era in the history of our rural communities, and it is not too much to say that the passing of the Small Holdings and Allotments Act, which came into force on January 1 last, will probably prove to be one of the most important measures that have been placed upon the Statute Book within the last fifty years. So far as farms are concerned, we do not advocate for a moment that poultry-keeping should be the whole or even the main object, but it may be assumed that at least three fowls per acre could be maintained upon the farms of the country without

displacement of any other stock or interference with present methods of cultivation, and it will be of interest to see what this means. In Great Britain last year there were 32,266,755 acres of cultivated land, and the following table gives the figures as to what will be the result when we have reached the three fowls per acre standard.

	Present value of Eggs and Poultry produced.	Possible value (3 per acre of cult. land).	Possible increase.
Great Britain, ..	£8,250,000	£24,750,000	£16,500,000
Ireland ..	3,450,000	7,400,000	3,950,000
Totals	£11,700,000	£32,150,000	£20,450,000

This is no idle dream. It does not mean undue development of poultry-keeping, nor does it take into account the uncultivated land, which may be and probably will be utilised to a much greater extent in the future, nor yet the small suburban or cottage poultry keepers who are so important a factor in the food supply of the country. As shown in the previous article, during the last thirty years the annual value of the poultry crop has increased by £6,000,000, but it will be seen that there is yet much to be done, and it is not at all beyond the range of possibility to increase the yearly production by £20,000,000 sterling.

The above estimate means that each acre of cultivated land in this country shall yield, so far as the poultry is concerned, 15s. per annum. This is a possibility for farmers of every grade. There are those to-day who do much more. I have come across farms where the gross returns in sale of eggs and poultry are equal to 30s. and even £2 per acre, without any serious interference with other work of the farm. Therefore 15s. per acre is an extremely modest estimate, when we take into account the fact that in many districts it is already exceeded to a considerable extent. This can only be accomplished by better methods in dealing with poultry. We want to distribute the fowls over the land even more than in the past, to secure the keeping of better fowls, the adoption of better methods of management, the use of up-to-date appliances, and, last but by no means least, marketing upon the most advanced lines; in short, we need to apply to poultry-keeping commercial principles in the highest sense. From the Agricultural returns it will be seen that the average acreage of the farms in Britain is 63·16, and on the above basis the average income from the sale of poultry should work out at about £48 per annum. When stated in this way it will be realised at once that that result should be by no means difficult. Such a sum is frequently earned on one-fifth the acreage named, and will be increasingly so in the future. I am firmly convinced that the adoption of

the colony house system, which will doubtless be dealt with more fully in THE ILLUSTRATED POULTRY RECORD, and which is described in my "Report on the Poultry Industry in America," will be the method best calculated to secure the results towards which we are striving. There is, however, one question which must be solved, namely, that of foxes. This is not the place to discuss it, but a *modus vivendi* must be arrived at, and the sooner it is accomplished the better.

So much for farm poultry-keeping. We must now consider the relationship of specialist poultry plants to the industry as a whole. How far these may be used for the production of market eggs and poultry is by no means determined. They are necessarily carried out on intensive lines, and we are yet largely in the experimental stage so far as that is concerned.



A Large Laying House at Reading, Mass., U.S.A.

The attempts which are and have been made are of the deepest interest, and probably with widened experience we shall overcome many of the difficulties which still stand in the way. Observations in this country, on the Continent, and in America have confirmed the opinion held, that it is very doubtful if they will contribute to a much greater extent than at present to the supply of food, and I question whether they can be made profitable unless the returns are enhanced by the sale of stock birds, eggs for hatching, day-old chickens, &c. Where these branches are combined, there is no doubt whatever that they can be made profitable, yielding a modest but satisfactory return, and occupy a most important place in the industry. It is upon the specialist poultry plants that breeds are tested and their qualities developed. It is from them that poultry keepers of every grade can obtain the fresh stock which is so absolute a necessity. I do not doubt but that they may to some

extent provide for the trade in high-grade produce, but even with this they merely touch the fringe. They are, however, essential, and the greater the development of poultry-keeping upon the farms of the country the more of these breeding plants will be required. In fact this branch to-day is capable of very great extension. But one important point must be kept in view, namely, that those who take up the work must be thoroughly trained; they must know their business well. Many of the failures which have marked the past are due to the fact that people

The future will see more and more attention being given to questions of breed. We must improve present races and we want new races. One of the great dangers at this moment is with regard to fancy poultry-keeping, and unless exhibitors are prepared to amend their standards in accordance with the economic qualities, the time will come sooner or later when utility poultry keepers must adopt their own standards, refusing to be fettered by the false allocation of points published in the standards which have been laid down purely for exhibition purposes.



ON MR. H. D. SMITH'S FARM, HANOVER, MASS., U.S.A.

thought they could earn a good living on a few weeks' instruction. This question of training will become more and more important as the industry develops, and it cannot be pressed too strongly upon the attention of all concerned. I believe, also, that there will be in the future a great increase in the number of poultry establishments maintained by the well-to-do, for which managers will be wanted. To-day we have a much greater demand for labour than can be supplied, and for this we want strong men and women, who are not afraid of hard work and who are unfettered by the social limitations which too often have hindered progress on the part of those taking up poultry-keeping.

Each country ought to strive to develop breeds of poultry in accordance with its own special conditions. Why is it that neither Wales nor Ireland has a breed that is at all national? In Scotland there is only one, and even that is discarded for the sake of imported races. Much may be learnt in breeding when the experiments now being carried out with regard to Mendel's Law have assumed a more definite phase, but how far they will help us remains to be seen. There is no doubt also that the day-old chick trade is capable of great extension, and along the lines of increased egg production by means of trap-nests, avoiding the dangers seen at the present time in this direction, will be raised the average standard of

fecundity in this country. The same may be done with regard to the development of meat qualities, and may thus link breeding into the service of man.

In no section has greater advance been made in the past than in artificial incubation, but it may fairly be said that these developments are by no means complete. Everyone who has made careful observations knows that the percentage of hatching in incubators is lower than under hens, and there is something that is lacking in machines. What it is we cannot tell. The great increase in ill-feathering of artificially hatched chickens which I noted in America two years ago, and which is growing in this country, calls for careful consideration, and I believe that both in respect to artificial incubation and rearing we shall see a marked advance in the future. Up to the present time the pipe system of heating brooder houses has not been a success, but that difficulty may be overcome.

Upon the question of feeding there is much to learn—feeding not only to keep the birds healthy which has not been attended to as its importance deserves, but also to reduce the cost. It may be in the future that we shall find that more green food may be given with equal results, and I was glad to see, both in America and in Denmark, that lucerne, or alfalfa, is coming so much into use. Many poultry keepers have failed utterly to realise that with fresh nutritive vegetable food, grown upon their own place, they can feed more cheaply than upon purchased foods, and at the same time help to utilise the manure produced by the fowls. Upon this line very little comparatively has been done, and it may mean much in respect to the general success of the industry. The same is true in fattening. We desire early maturity, we want to produce the birds in the very best condition. Possibly cramming itself may become obsolete by the discovery of new methods of feeding and of fresh forms of food, so that the appetites of the birds will be stimulated prior to the time of killing. I was most interested in America to hear about the Cyphers system of growing chickens for table purposes. Unfortunately that has not yet received sufficient test to warrant us in expressing any opinion upon it here. It is more than twenty years since I first saw this system adopted in Germany; afterwards it was followed out in Belgium, and later in America, and the method is being tested in this country. Nearly all these schemes failed, but from those failures we may yet evolve success.

Duck raising has grown enormously in the past, yet it is a trade capable of great increase. There are districts where it could be introduced with manifest success, more especially as small holdings increase. At the present time Geese are under a shadow. The

demand is reduced and prices have fallen, but I believe that with the marketing of smaller birds about Michaelmas, those weighing from 7 to 9 lb., we could create a new trade, and with it a new industry. This is the case in other countries and might fairly be attempted here. Turkeys are not kept to nearly the extent they might be. There is a huge demand with excellent prices, and I hope to see a great increase in the number of Turkeys maintained by farmers. Probably we could develop the sale of young or squab Turkeys weighing 5 lb. to 6 lb., and if these proved profitable farmers could breed twice as many as they intended to feed off at Christmas, selling some of the younger birds during June and July.

Much might be written with regard to the necessity for studying the markets. This is not a point for traders or for consumers alone; it is essentially a producer's question. Market requirements must be studied, the quality must be supplied which will command the highest rates, and the goods must be sent forward in condition so that they will please both the eye and the palate. With the best markets in the world almost at the doors of home producers they should be able to defy all competition. This is a big problem, depending to some extent upon local demand, but primarily upon rapid collection, upon proper grading, and up to the present time over the greater part of the country the only method which has yielded satisfactory results is combination on co-operative lines of producers for mutual benefit. That explains the success of the Danes, and has been done to a large extent in Ireland, where we hope the system will grow still more in the future. Poultry keepers must look after themselves in the direction of marketing if they wish to succeed.

With regard to other parts of the world than the United Kingdom, I have not attempted to enter into any general consideration of these. They have their special conditions, their special advantages, it may be in some cases their special difficulties. The principles which have been laid down above will apply in the majority of cases, at any rate so far as production is concerned. The lines which are suitable for one country will not necessarily be adopted in another. The satisfactory point is that this industry is growing everywhere.

If progress is to be made, we want more education and better education, more experimental work and better experimental work. It may be fairly hoped that the report of the Departmental Committee on Agricultural Education recently published will have its influence in securing the fuller equipment of training stations, and there should be no Agricultural College without a Poultry section. Moreover, a special feature of this branch should be made if the winter schools advocated by the Departmental

Committee are established. We want experiments carried out on a multitude of lines. There are vast fields which await investigation. Every step we take forward means that there are scores of questions presenting themselves, and research on the higher branches is equally important, more especially in the direction of disease. This work of education and of experiment is essentially a public duty, and for it public funds are requisite. That fact was emphasised by the resolutions which were carried at the Second National Poultry Conference held at Reading a year ago, and it is satisfactory to note that the recommendations there made have, to some extent, been recognised by the central authorities. We in the United Kingdom have been slow to move in this direction, but great though the work has been in other lands, even there much more might be done. I hope that the establishment of THE ILLUSTRATED POULTRY RECORD may mean the focussing together of information which has in too many cases been lost from want of a medium through which it could be disseminated.

As already stated, the growth of the Poultry

Industry in all parts of the world has been remarkable, but we are only at the beginning of things. Many years ago the spirit of progression was entirely absent in relation to this industry; now it is an important factor. The prejudice against poultry has been battled down, and central authorities as well as individuals have come to see that this branch means more than many others to which they have given great attention in the past, and the desire is to encourage it in the future. At the same time the progress made must be properly guided. Pioneers are wanted, but pioneers often have to pay for their knowledge. They break down the barriers which have held their predecessors, and in this way our knowledge is often increased. They must, however, recognise that there are limitations, and as the main object is food supply all our work must be regulated in accordance therewith. The dangers in the future are exactly the same as in the past, of increasing numbers without modified methods. In this direction there are distinct limitations imposed by Nature herself, which we must recognise; but we do not want to create them.



A FOOD BUCKET CARRIER.

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Designed and used by R. Armitage, Esq., M.P., upon his Poultry Farm, near Leeds.

SOME THINGS THE TWELVE MONTHS' LAYING COMPETITION HAS TAUGHT.

By E. W. RICHARDSON,

Secretary Utility Poultry Club and Manager of the Competition.

THE first Twelve Months' Laying Competition ever held in England is now over. Such competitions are common in Australia, but in this country, with our limited financial resources, it is an event. The present competition was promoted by the Utility Poultry Club with the assistance of a grant from the Board of Agriculture, whose representative visited the competition in November, 1907, and again just before its close. Twenty pens were provided and twenty entries received; these consisted of eight pens of White Wyandottes, four of White Leghorns, three of Buff Rocks, and one each of Barred Rocks, Houdans, La Bresse, Partridge Wyandottes, and Black Wyandottes. Two things are remarkable; the large number of entries of White Wyandottes and the total absence of Orpingtons. Though laying is a question of strain rather than breed, it would have been extremely interesting to have seen the two most popular utility fowls pitted against each other. The contest started on October 1, 1907, but the birds had been in the pens a fortnight in order to become accustomed to their surroundings. The great majority of the birds were early hatched and well developed, but as sixty - eight, or more than half, had not laid at the end of the first month, and thirty - two, or more than a quarter, at the end of the second month, it will be seen that the task of selecting the competing birds is not an easy one. All the birds were trapnested during the whole period, the traps

revealing strange antics on the part of three of the competitors. A Partridge Wyandotte, looking fit and well, went to the nest and behaved exactly like a laying hen for several weeks, but no egg was found. She then rested for a while, during which period she did not look like a layer; then, brightening up, she resumed her profitless task, and later was returned to her owner. A Buff Rock, behaving in the same way, was taken from the pen and put in a house where there was no nest, but she took up a position on the floor board and periodically entered upon her unremunerative duties; ultimately she was killed and was found to contain a large ova, the oviduct having aborted, which was found to contain about a pint of yellow matter—apparently the decomposed yolks. A White Wyandotte, having laid 113 eggs up to June 1, suddenly began to behave in the same manner and did not lay again, though she visited the nest in the same fashion as her sisters. Three non-productive birds out of 120 is a large proportion and a severe handicap to the pen which contained them.



BIRD'S-EYE VIEW OF PENS.

Trapnesting 120 birds for a whole year is a monotonous and thankless task. In the long days of summer the first round was made from 6.30-7 a.m., when few birds had laid; occasionally many would be on the nests, and had to be lifted off to get their breakfasts. The second round was made about 9 a.m., the next about noon, a fourth about 2 p.m., and the final, or what should have been the final, at the time of the afternoon feed, at 4.30-5. Sometimes, however,

there would be a number of hens that were on the nest, but had not laid at this time, which meant lifting them off for their tea and making another round during the evening. An eight-hours' day for the poultryman who trapnests would be impracticable. Much patience is needed to enable one to go his rounds with evenness of temper.

Some of the hens

seem to take a wicked delight in fooling the attendant; he hears a frantic knocking on the swinging front of the nest, and, hastening to liberate the bird, lest she should break her egg, he finds, to his intense disgust, that she has not laid. A minute later he hears the rattle which tells him she has again gone to the nest, and no sooner has he reached the most inaccessible part of the range than he hears the familiar cackle, telling that the egg has been laid and Biddy wishes to be released.

But if trapnests make a severe demand upon one's time and temper they fulfil an important function. With absolute accuracy they weed out the idler and proclaim the drones, as well as hall-mark the industrious, and when the records show us that one White Leghorn managed to lay 36 eggs in the 366 days, while a Buff Rock, housed and fed in precisely the same manner, laid 216 eggs, we forget the monotony, and at times the discomfort, of trapping birds day in day out for a whole year, and applaud the inventor who enables us with unerring accuracy to say which shall be honoured with a place in the

breeding pen and which shall be consigned to the spit.

One of the most interesting points in connection with the competition was the very wide difference in the tendency to broodiness displayed not only by different pens, but also by different individuals in the pens. In three pens only were there no broody birds; these were the Houdans and two pens of



WHITE WYANDOTTES, LAYERS OF HIGHEST AGGREGATE.

White Leghorns. Next to these, the least broodiness was in a pen of Buff Rocks. In this case one bird became broody twice, another showed signs of broodiness but never ceased laying, while the other birds in the pen did not become broody at all. This we regard as one of the most noteworthy points in the competition. In two pens of White Leghorns five birds became broody nine times, while a pen of White Wyandottes had only two broody birds, and their aggregate was only three. The most notable cases of excessive broodiness were the La Bresse and the Partridge Wyandottes, each pen aggregating thirty-two. The most notable instances of excessive broodiness in individuals were two La Bresse hens, which became broody ten and eight times respectively; three Partridge Wyandottes which were so seven, seven, and six times respectively; a Barred Rock was broody seven times, and a White Wyandotte seven. Contrasted with these high figures, one La Bresse, two Barred Rocks, and two Black Wyandottes did not become broody once; seventeen White Wyandottes and six Buff Rocks showed no desire to incubate

during the whole year. In most cases the broodiness was easily broken, but the La Bresse were so persistent that it was often necessary to take them back to the broody pen for a second period of incarceration.

The most notable cases of proficiency were two Buff Rocks in the same pen, which laid 216 and 206 eggs respectively, a Buff Rock which laid 203 in just over nine months, and two White Wyandottes which produced 213 and 201 respectively. The White Leghorns were responsible for some of the lowest aggregates, one carrying off the wooden spoon of the competition with a grand total of 36, 15 of which were laid in April, the remaining 21 being distributed over five months. It is worthy of notice that not a single egg was laid in November, December, January, July, August, or September. Other poor totals were 68, 83, 84, and 89. Only one bird in the pen of Partridge Wyandottes laid more than 100 eggs, while the two lowest totals among the White Wyandottes were 87 and 90 respectively. Three Buff Rocks (all in the same pen) were responsible for the meagre totals of 54, 86, and 99; the first-named laid 18 eggs in April, the other 36 eggs being laid at the rate of five a month, which strenuous performance necessitated a holiday extending over the remaining sixteen weeks. While it would be difficult to say which was the best pen in the competition considering all circumstances, it is perfectly easy to say which was the worst: for sheer unmitigated laziness unredeemed by any virtue whatsoever, pen 20—Buff Rocks—stands pre-eminent. They arrived well grown and forward, in the pink of condition, which they maintained throughout the competition, yet they were too lazy to lay eggs or incubate, for five members of the pen only became broody once and the sixth three times. Such birds are an incubus to any poultry keeper, and the owner probably considers they are not worth the carriage home, for at the time of writing—October 16—they still remain in the competition pens. The Partridge Wyandottes produced a smaller number of eggs, excessive broodiness interfering with their productiveness, while they were further handicapped by one of their number being physically unable to lay, which necessitated its removal after the competition had run four months. It is rather singular that only one of the first seven pens finished without accident or mishap; in one a White Wyandotte got hurt twice through her timidity when in the trap-nest; two pens each contained a bird physically unable to lay; while a bird died in each of two others. The most notable results were achieved by a pen of Buff Rocks, obviously immature when sent. The first egg was laid on November 30, and at the end of the second month they occupied the last place, but notwithstanding a death in March they

steadily climbed higher and higher. Another bird died in July; yet in spite of this they finished fourth, and seven more eggs would have given them the third position. The four birds that finished the course laid during the months of December to September 30, 203, 175, 164, and 156 eggs respectively. It is idle to speculate, but one wonders what would have been the pen's record if it had suffered no handicap. It is equally worth noting that if we except pen 11, in which actually five birds died, and pen 8, no casualty or mishap of any kind befel the pens occupying the last nine places. Their ignominious positions were not therefore the result of disaster or misfortune.

As the prizes are awarded for *value* rather than for *number* of eggs, it was a distinct advantage to the prolific birds if they laid eggs of good size. Size of eggs is distinctive of individuals rather than of breeds. The majority of the forty-eight White Wyandottes laid eggs weighing 2 oz. or more, the eggs being of good colour and quality, but a few of the birds consistently laid small eggs. One hen, whose total was 150, appears to have laid only two eggs that weighed 2 oz. or more, while several of them were unsaleable; but she holds a record for the competition of thirty-two eggs in thirty-two days. She became broody five times, and rarely missed a day when laying. Several of her companions laid small, thin-shelled white eggs; indeed, this pen laid more unsaleable eggs than any other in the competition, though two others laid over thirty that were unmarketable. Altogether about fifteen dozen unsaleable eggs were laid, fourteen pens being responsible for them. Six pens of Houdans, three pens of White Leghorns, and two pens of White Wyandottes did not lay a single unsaleable egg, while the remaining pens of Leghorns, Black Wyandottes, and the three pens of Buff Rocks did not aggregate a dozen between them. The Barred Rocks, Partridge Wyandottes, and two pens of White Wyandottes laid twelve dozen out of the total of fifteen dozen.

An egg was deemed to be unsaleable if the manager could not conscientiously include it when packing for market. The size qualification, of course, varied slightly with the time of year, an egg that would pass muster in November and December being excluded in April or May. There were few double-yolked eggs, and the number of those having no shells was extremely small. The former were scheduled as first grade, but the latter did not count. Taking into consideration the fact that the trap-nesting proceeded during the whole year, remarkably few eggs were broken, and these were mainly by a small minority that the last week of the competition behaved in the same extravagant fashion that they had displayed when it started.

The extremely dry weather of July and August caused five-sixths of the birds to moult prematurely, so that the resting period came during the pullet year and not in October, as one would have wished, and this undoubtedly caused the general average to be lower than otherwise it would have been. In very few pens were the six birds uniformly good, and in some their performances were widely divergent. A pen of Buff Rocks may be taken as an example. Three excellent birds, laying respectively 216, 206, and 132 eggs, were partnered by birds laying 101, 118, and 126 eggs respectively. The best bird in another pen laid 181 eggs and the worst 87, while in yet another the highest was 156 and the lowest 36.

The enigma of the competition was the non-success of the White Leghorns; 630, 670, and 671 are such poor totals that one wonders at the smallness thereof; 843, achieved by the other pen, is better, but it is 200 less than the winning pen of Wyandottes, and only gains it the tenth place. Their miserable performance during August and September, an aggregate of 158 eggs from 24 birds, mainly con-

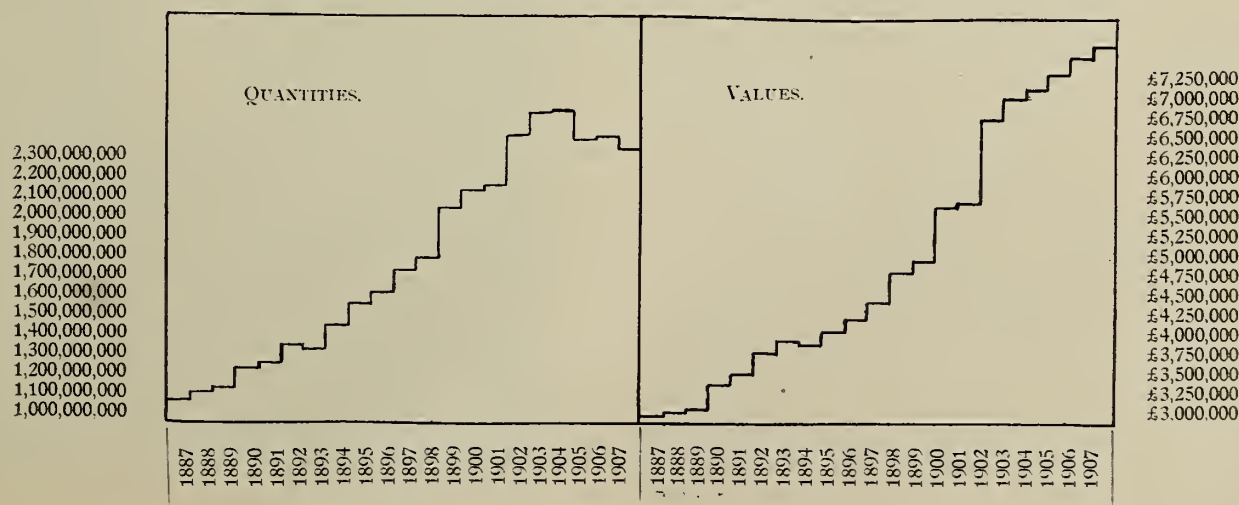
tributed to this result, but the most striking figures are those for September: Pen 4 laid 5 eggs, pen 5 24, pen 7 none, and pen 6 laid 57. Eight birds did not lay a single egg during August and September, while three of the number added July also to the holiday period.

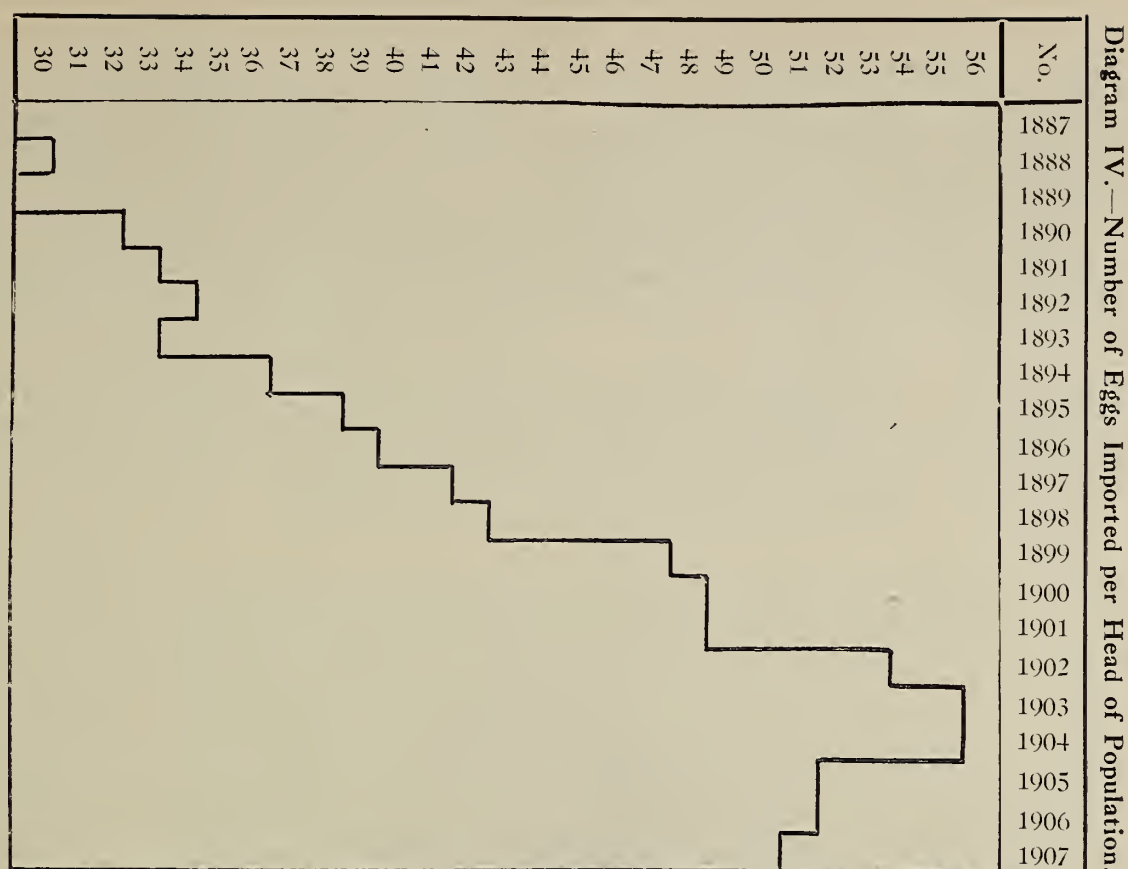
No attempt whatever was made to secure abnormal results by forced feeding, the birds being fed throughout the competition in an ordinary way upon ordinary foods. Incidentally, the competition taught us the value of shade in hot weather. During the extremely dry and hot period of July and August the birds could only get such protection from the sun as was afforded by the houses. The ground, though covered with grass, was hot and parched, and the great majority of the birds ceased to lay and moulted. Our own birds, at liberty to seek such shade as was afforded by hedges and buildings, laid much better, and few moulted, while another flock confined to a small orchard, where little sun could penetrate and the soil was comparatively damp, laid splendidly, and not one moulted.

A STORY WITHOUT WORDS.

PART III., Vol. XLII., of the Agricultural Statistics for 1907, issued by the Board of Agriculture and Fisheries, deals with prices and supplies of agricultural produce. In order that the mass of figures dealing with eggs and poultry may be more fully realised, we give them in diagrammatic form, leaving these to tell their own story

Diagram I.—Quantities and Values of Egg Imports, 1887 to 1907.





WHO'S WHO IN THE POULTRY WORLD.

M. LOUIS VANDER SNICKT.



M. LOUIS VANDER SNICKT.

TO tell the full story of M. Vander Snickt's labours would be impossible, even in a large volume, and we can do no more than say a few words respecting one who is known on the Continent wherever animal or bird or fish life is spoken of. As founder and editor of *Chasse et Pêche*, for many years his influence has been very great. Possessing a mind stored with practical knowledge, gleaned from his own wide experience in poultry breeding and from the Belgian peasants, M. Vander Snickt is one of the most remarkable men of his time, and were his work recognised as it ought to be, there is no honour or reward which his country can give that would be beyond his deserts.

Descended from the old race of Flemish farmers, with some Spanish blood on the maternal side, he was born at Grammont in 1837, so that he is now in his 72nd year, though in activity of mind and body he might be twenty years younger. From the earliest days he has devoted himself to the study of animal life in many forms and to the perfection for practical purposes of the animals and birds of his native land. To him external differences are of secondary importance, and his efforts have frequently brought him into conflict with fanciers. But he has helped the Belgian peasants and breeders as no one else has done.

At one time director of the Zoological Gardens at Ghent, afterwards at Dusseldorf, and later at Antwerp, M. Vander Snickt has had wide experience. He has travelled over a large part of Europe, is well known in England and his enthusiasm is unbounded in any cause which makes for progress. It is not too much to say that he has largely created the poultry industry as we know it to day. He attended and read papers at the National Poultry Conferences of 1899 and 1907.

MR. J. W. LUDLOW.

IN the creation of the Poultry Fancy at home and abroad as we know it to-day, two names stand out most prominently, namely, those of the late Lewis Wright and the subject of our present note. One the talented author of the well-known monumental "Book of Poultry," first published complete in 1874, the other its illustrator. The combination of literary and practical knowledge of the subject, with high-class coloured illustrations, marked an advance on anything that had gone before. Both were keen fanciers.

Mr. Ludlow is now sixty-eight years of age, but as our pages have already shown, his pencil is yet busy. A fancier of poultry and pigeons all his life, he has been breeder, exhibitor, and judge, as well as artist, and he has kept nearly every known variety. He has judged nearly everywhere during the last forty-two years. He has written very largely in poultry and agricultural papers, and is author of the "International Standard of Excellence for Pigeons," published in America. He is the recognised leader in the Birmingham district, where is his home, is an honorary member of the Poultry and Pigeon Clubs, is President of the Birmingham Columbarian Society, the Blue-laced Wyandotte Club, the Midland Homing Society, and several other clubs, and has been a member of the council of the great Bingley Hall

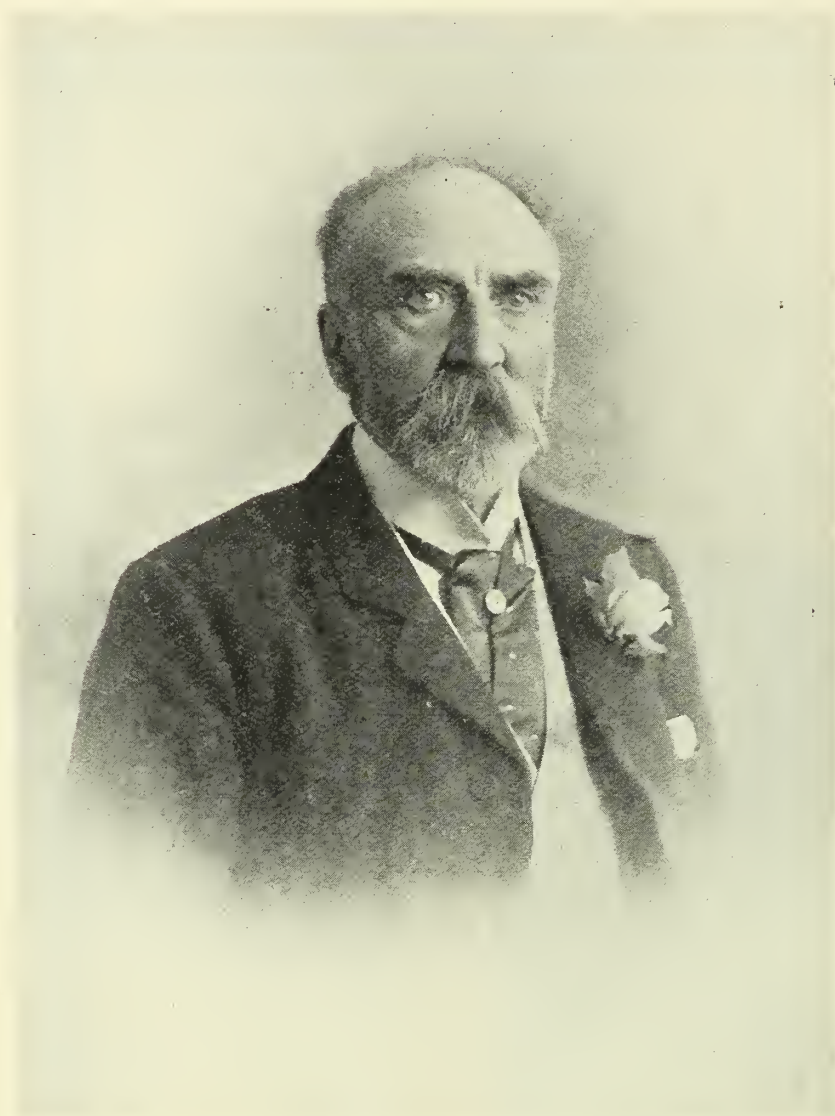
Show, Birmingham, every one of the fifty-nine exhibitions of which he has attended. In the evening of a long and strenuous life our friend commands the esteem and respect of all who know him.

MR. PERCY PERCIVAL.

THE genial President of the Utility Poultry Club has been an ardent lover of birds and animals ever since his earliest days, and the gift of a sitting of Silver-Grey Dorking's eggs when only nine years old was his actual commencement as a breeder of poultry. He says that the period of waiting for the final result proved to be the longest three weeks in his life—"a watched pot is long boiling." During his youthful employment at the War Office his life in London was varied by visits to Club Row, Seven Dials, and the Zoo, and Mr. Percival declares that there is no place in the world where a lad can see so much of bird and animal life as in London, if he knows where to look for it. Then came many years of strenuous business life, part of which was spent in the North of England, but about twenty-five years ago broken health led to a country life, when the old longings were given full play, and a measure of renewed vigour came with devotion to chicken rearing.

Since that important change was made, Mr. Percival has been an ardent poultry breeder, and he has kept most of the leading varieties, paying a large amount of attention to table poultry. One of his latest

crosses is between the Indian Game and White Orpington. Never what may be termed a fancier, he has always given attention to practical results, and in judging it is the utility side which appeals most strongly to him. He has always been a supporter of the Utility Poultry Club, and on the retirement of Mr. Holmes-Tarn he was elected President, which position he has filled with great acceptance for several years.



Mr. J. W. LUDLOW.



Exhibiting Chickens.

In last month's notes a somewhat brief reference was made to the fact that the Poultry Club had issued its mandate concerning the future exhibition of fowls in chicken classes at shows which are held under Poultry Club rules. The subject was one which affected the novice rather than the professional exhibitor, and it was very thoroughly investigated. It was naturally anticipated, since it aimed at benefiting the small fancier, that the council's decision on the question would be universally approved; hence it comes as a surprise to learn that the new rule "puts the small exhibitor at a very serious disadvantage." It is stated in support of this assertion that many small fanciers keep only a few breeding pens, and are therefore unable to hatch birds about August for the early shows, or even to hatch their general stock in the winter and early spring. It would appear, then, because a breeder confines his attention to a few pens, that he is seriously handicapped in the production of early chickens. However, a greater misstatement was never committed to print, and I assert this after having been connected with the poultry fancy for many years in localities where the "big" fancier is unknown.

The Small Exhibitor.

There is no one who has a better chance of hatching a brood or two of chickens out of season than the man whose accommodation for his fowls is limited to the proverbial "few square feet" of garden. With him the keeping of poultry is a hobby; the few birds get much more personal attention than would a large flock, and it will often be found that they moult through early and are therefore the sooner fitted for duty in the breeding pen. I have often seen early chickens hatched and successfully reared to maturity on the premises of those who, rightly enough, are small exhibitors. They have as good a chance as anyone to compete with the early birds of the professionals, and when the time comes for the summer chicken shows the small fancier class of exhibitor will, I feel sure, be fully represented.

Age Limit in Young Fowls.

It has always been a debatable point as to when a cockerel becomes a cock and a pullet a hen. In some

quarters a cock is a male bird which is old enough to be used in the breeding pen, while a pullet becomes a hen with the laying of her first egg. As can be imagined, these limits are somewhat elastic, since the age at which a male bird arrives at maturity differs not only with breeds but even with individual specimens of the same hatch, whereas similar conditions apply to the laying of pullets, and in addition the production of the first egg can be materially delayed by feeding and management. Until the new rule of the Poultry Club came into vogue it was generally understood in exhibition circles that the former appellations could not be correctly used after the last day of the year in which the birds were hatched. For example, a fowl bred during this year would, under the old ruling, cease to be a cockerel or a pullet after December 31.

The Definition of a Chicken.

It will readily be admitted, even by the most ardent supporter of the movement, that the new rule anent the exhibition of cockerels and pullets has not given us anything definite as regards age. The exact wording of the resolution concerning this subject which was adopted at the July meeting of the Poultry Club council is as follows:—"That the test of chickenhood for chickens exhibited in classes prior to August 1 is to be by the softness of the cartilage covering the breastbone point and the two pelvis bones." This handling test, which is after all a natural one, is undoubtedly the most satisfactory one to serve as a guide; and since it is not the Poultry Club's intention to demand or enforce any system of artificial marking to guarantee the age of exhibition or other birds, it is practically the only test that can be used.

The Object of Chicken Classes.

It has been said that as early maturity is one of the most valuable points in any animal intended for food, those people who honestly help to bring it about deserve great thanks and merit every encouragement. Just when chicken classes first came into vogue I am unable to say. The movement was commenced many years ago, and it probably dates back to the time of the great depression in agriculture. But there cannot be the slightest doubt that the original intention of the promoters of such classes

at the summer shows was to encourage early breeding so that table poultry of a suitable nature could be placed on the spring markets; and the object was a laudable one. Fowls which are now entered in chicken classes, however, are not intended to be eaten in their youth nor to serve any end in the direction of what most poultry keepers term utility points. I have never seen a chicken which was likely to gain a prize catalogued in a class for birds of the year at a price within the reach of those people who were anxious to put the specimens on the table or to use them in the breeding pens to improve table qualities.

Open Competition.

The chickens were purely and simply fancy stock; they were penned in a forward state because it was the custom for the earliest and largest birds to get the prizes. But as the rearing of spring chickens is now thoroughly understood and has, as a matter of fact, developed into a very important branch of the poultry industry, I think it is high time that chicken classes were entirely abolished and that competition in future be open to birds of any age. It may be objected that cockerels and pullets can never hold their own with adult fowls in the showpen; but that is not the case, and they will stand an equal chance, provided they are not mere chickens. Moreover, there are times of the year when old birds are not fit for exhibition, and during those periods the young stock would have ample opportunity of proving its worth.

THE DAIRY SHOW.

By W. W. BROOMHEAD.

(See *Frontispiece*.)

FROM the poultry fancier's point of view the thirty-third annual show of the British Dairy Farmers' Association, which was held at the Agricultural Hall, London, N., on October 6, 7, 8, and 9, must be chronicled a complete success; and, so far as his particular department is concerned, there cannot be any doubt that it compared very favourably indeed with similar sections of former shows of the Association. The total number of entries, inclusive of those in the table poultry and appliance classes, was 3,330, making an average for the 241 classes of not far short of fourteen, although, on account of insufficient support, fourteen of the classes originally scheduled had to be cancelled. As regards the poultry as a whole, it is only necessary to mention that the very pick of the season's chickens were on view; hence it can be taken for granted that quality was not lacking.

As has been the case for the past few years, the live poultry section opened with classes for breeding pens, consisting of a cock or cockerel and three hens or pullets. Four such classes were provided, but the one for bantams was cancelled. In the first, which was for feather-legged poultry, Brahmas took the whole of the prizes, and the winning pen of very smart-looking lights was awarded the Association's medal for the best in the section. Three popular breeds—viz., Plymouth Rocks, Wyandottes, and Orpingtons—had to compete against each other in the

second class and, as many noted yards were represented, the competition was particularly keen. The chief award, however, was secured by a gentleman who is practically a novice, and the winning birds—White Wyandottes—were very well selected. In the class for any other variety of clean-legged poultry first prize was awarded to a grand pen of Brown-red Modern Game, which were very well matched as regards colour. The special feature of the breeding-pen classes was that the exhibits were staged in specially-constructed wire cages; and as a result it was an easy matter for both the judges and the public to examine them. In former years the fowls in this section have been exhibited in small houses with runs attached; indeed, such a system as this generally obtains at all shows at which pen classes are provided. It is to be hoped, however, that the example here set, which answered admirably in every way, will be followed by all show committees in future.

Dorkings were numerically well in advance of last year's total, and the silver-grey cockerels showed a very good increase. Only two varieties, however, were catered for, although time was when four or five entered the lists. But the Dorking is not the popular breed it used to be, and the coloured and silver-grey varieties are practically the only ones existing in anything like decent numbers at the present time. It was unfortunate that at last month's show the birds were staged in a somewhat bad light, as also were three or four other breeds which followed. This was, no doubt, on account of the increased entry in the poultry section, although it may also have been due to the fact that more floor space than usual was apportioned to the numerous stand-holders and their wares.

There was a very satisfactory display of Black Langshans, fifty birds being entered in the two classes. The pullets appeared to be of rather better quality than the cockerels, and the Association's silver medal was awarded to the winning pullet, a very well-proportioned bird despite the length of leg which seems to be so popular in the modern type. The blues and whites were not strong; in fact, compared with last year's entry, the former were decidedly poor. This is somewhat surprising, since there is a Blue Langshan Club; but only three yards were represented, one exhibitor penning three of the five specimens and winning first prize with a typical cockerel. It must be admitted, however, that blue is a difficult colour to get to exhibition pitch in any of the practically new varieties. Croad Langshans were not up to expectations. Two classes were provided for the breed, as against one at last year's event; but the entry was one short of the 1907 total, and five cockerels cannot be said to be representative. The winning cockerel, however, was a particularly fine specimen, possessing the full flowing tail so characteristic of the breed, while the first prize pullet was well up to standard requirements.

Brahmas were about as good as usual, although the dark pullets were hardly so numerous as at last year's show. The Association's silver medal for the best Brahma was won by a light cockerel, almost a perfect specimen, with a well-defined neck hackle, while his owner also penned the best pullet of that variety,

a bird which practically scored full points. The winning darks of both sexes were also typical specimens, and they belonged to one fancier. In Cochins the silver medal was awarded to a buff cockerel, a big bird of level shade and well fluffed. The winning buff pullet and both of the partridges which secured first prizes were of more than ordinary merit. Extra classes were scheduled for the breed this year, two for blacks and two for whites. In the former case, however, they did not fill; but

there was a very satisfactory entry of whites, and quality was well to the fore, it being difficult to say which was the better of the two first prize winners, both excelling in colour and being of true type.

The two classes for Minorcas had fifty-two entries, and competition was extremely keen. The winning cockerel, a grand headed fowl of splendid type, secured the silver medal, while first prize in pullets went to a bird of almost equal merit. Houdans, as usual, were well represented. A cockerel which gained premier award in his class also obtained the silver medal, which was open to Faverolles as well as Houdans; but although the bird was of good size and shape and possessed a fine crest, he was spoilt by an inclination to stand in-kneed. If anything, the winning pullet was a better all-round specimen. Faverolles were good, and fanciers of this breed are to be congratulated on the high state of perfection to which they have now brought it, both the winning cockerel and the first prize pullet showing excellent quality.

Campines, which were represented by only one variety, viz., the silver, were not better numerically than at last year's "Dairy," but there is no doubt that the exhibits were all in advance as regards quality. The indefatigable hon. secretary of the Campine Club penned some excellent birds, and he had the great honour of winning first prize in both classes and securing three medals. The six classes of Hamburgs had an average entry of slightly over six, which, although by no means representative of the Hamburg Fancy, is about up to Dairy Show form of recent years. One exhibitor won both first prizes for



A CORNER OF THE DAIRY SHOW.

[Copyright.]

spangled varieties and premier honours in the class for black cockerels, while the two first prizes for pencilled went to a pair of charming golds from another noted yard.

Modern Game were very disappointing. Eight classes were scheduled, but the six for pile, duckwing, and any other colour were cancelled. The black-reds, however, were quite up to the usual high standard; in fact, the pullet class was in advance of that at the 1907 event. A well-known Game fancier staged both first prize winners, which were fine racy birds, and his pullet secured the silver medal. What was lacking in Modern Game, however, was more than compensated by the Old English Game. It was a remarkably fine display and, with the exception of those at two or three northern exhibitions where Game fowls form a special feature, there has seldom been a better turnout of recent years. The entries totalled 120 in the seven classes and, with the exception of one exhibitor's birds which secured first prizes in the classes for black-breasted, red, and spangled cockerels, honours were well distributed. The silver medal went to a particularly fine brown-red, which won the chief honour in the any other colour pullet class. Black Sumatra Game and Malay were not very numerous, although some good specimens were penned. Indian Game, however, were better, and the silver medal, which was offered for the two former breeds as well, fell to the winning Indian Game pullet. The first prize cockerel, however, was not a particularly good selection, and it was the general opinion that he was remarkably fortunate to get such a keenly contested award.

Andalusians were not very numerous, but quality was not lacking. The winning pullet, which was also awarded the silver medal and the club special, was a splendid bird, her chief feature being her especially fine breast colour and lacing, which are very difficult points to obtain. The Leghorns made a very fine display, although the class for cuckoo pullets was cancelled. The whites were hardly so numerous as they have been, but no fault could be found with their quality. The club special for the best of the variety went to a grand pullet of the modern type, whose owners also accomplished the difficult feat of winning first and second prizes in the cockerel class and all three prizes with pullets. Browns were numerous and good, and the silver medal for the best bird in the fifteen classes for Leghorns was awarded to the winning pullet, a particularly clean-coloured fowl with a good headpiece. Buffs were well up to standard requirements, and the first prize pullet secured the club special over the cockerels. A similar win occurred in blacks, the pullet getting the special. This variety has improved much of late, and the first prize pullet was a typical exhibit in all respects. Duckwings, cuckoos, and piles were not particularly strong, but the winners were well selected. The two classes for the latest addition to the Leghorn family, viz., the blue, had thirty-seven entries; but even at such an early date in their career they did not strike many authorities as being particularly good. The great drawback to the variety is that two standards have been drawn up for it; but as there is a well-established club to look after its interests, viz., the Blue Leghorn Club, it is to be hoped that the minority will follow the standard which has been drawn up and adopted by that specialist body.

The entry of Plymouth Rocks, which is always a considerable one at the Dairy Show, numbered 139, and the two classes for the barred variety accounted for seventy-six. Competition, needless to say, was very keen, as the quality was well above the average; but one exhibitor staged the first prize winners in each class, the pullet securing the special over the cockerels. Buffs were not so numerous as usual, but the cockerel which was awarded first prize and special excelled in size and type and scored full points for colour and soundness of tail. The whites were fairly representative, but they were not particularly big; in fact lack of size was their weak point, and this was more noticeable in the cockerels than the pullets. Blacks were only moderate; they do not appear to be very great favourites.

Wyandottes, as usual, were very strong numerically, and there was an especially good entry of whites and blacks. The quality generally was better than it has been for some years at this event, which is saying much. One exhibitor staged a remarkably fine team of silvers and golds, and secured three of the four first prizes and both specials for the varieties, in addition to winning the silver medal for the best Wyandotte, no fewer than 320 birds being entered for that honour. Whites, of which there were sixty-eight specimens in the two classes, were of rare good quality, and the competition was particularly keen; one fancier secured both first prizes and won the club special with a pullet. Blacks, too, were very numerous; the club special went to the winning

cockerel, which, like the pullet which won in her class of fifty-five entries, was a typical specimen. Partidges were not quite up to expectations; the cockerels were good, although sound colour was not a very prominent feature, but the pullets were only moderate. Silver pencilled were somewhat scarce, but the variety is not an easy one to breed to standard requirements; the winning cockerel, which took the club special, was as good a bird as we have seen, but the pullets generally failed in leg colour. The blue-laced do not appear to have taken on very well; the pullets were better than the cockerels, but the variety has much to do yet ere it can hold its own with other branches of the Wyandotte family. Columbians were somewhat disappointing, although the entries were very fair.

One expects to find a big collection of Orpingtons at the Agricultural Hall in October; in fact, they generally form the feature of the Dairy Show, and the display of last month was not disappointing. In the twelve classes for the breed there were 341 entries, which were divided as follows: Blacks 63, whites 89, buffs 127, other varieties 62. The blacks were not quite so numerous as at last year's event, but one exhibitor again proved himself practically invincible, winning both first prizes and three silver medals, one of the latter being for the best Orpington. The whites have made a great advance since the 1907 show, and the improvement in size and colour was most marked. Both of the first prize birds were typical specimens, as indeed were all the prize winners in the two classes. Buffs still keep up their reputation, and to win at the "Dairy" is a great achievement. The other classes were not particularly strong, although there was a slight increase of spangled pullets. The first prize Jubilee pullet, which secured the cup over the spangles, was a magnificent bird possessing the three colours in good proportion.

The entry of Sussex fowls was not a bad one, but there have been better classes at less important fixtures than the "Dairy." However, the six-shilling entry fee had, no doubt, something to do with it, since the Sussex Fancy is now a strong one. The quality in all three varieties lacked nothing, and it must have been a difficult matter for the judge to award the medal for the best specimen of the breed; but the speckled cockerel which gained it well deserved the honour. Anconas were about up to the usual high standard, and the extra class for the rose-combed variety was fairly well supported. Silkies came up in a satisfactory manner, while Yokohamas, which had separate classification this year, made a fine display, there being fifteen cocks and sixteen hens, the classes being for birds of any age. And, as they were penned in very large cages, the males were well able to exhibit to advantage their long tail adornments.

The classes for any other distinct variety were decidedly poor. There were only five entries in the cockerel class, while pullets were cancelled. One looks for novelties in these classes, and this year they appeared in a Rose-combed Barred Plymouth Rock and a pair of Blue Wyandottes. The selling classes, limited to £2, were very numerous and well supported, and many cheap birds were penned.

The bantams made quite a good show of themselves. There were a hundred Modern Game, a

similar number of Old English Game, and sixty-nine Malay; while the entry of non-Game Bantams (Rose-combs, Pekins, Sebrights, Scots Greys, and any other variety) totalled 146, a rather lower figure than at last year's event. The Lord Mayor's cup, offered for the best clean-legged fowl in the show, was awarded to the winning black-red Modern Game Bantam cockerel. In the Duck section there were thirty-two Rouens, as against fifty-four last year, and there was also a slight decrease in the entries of Aylesburys.

THE LEGHORN FOWL.

To the Editor of THE ILLUSTRATED POULTRY RECORD.

SIR,—I read with much interest Mr. Verrey's article in your last issue on "Leghorns, Past and Present," which states the case fairly, and with much of which I cordially agree.

My present purpose is to deal with the illustrations which accompany that article, more especially the drawing of English White Leghorns by my old friend Mr. J. W. Ludlow, who will, I know, not object to my criticisms. It may be explained that the drawing of Danish White Leghorns was from a photo taken when the birds were in moult, and does not represent the full size of combs when the hens are laying. But it will be apparent that there is a very great difference between the two types.

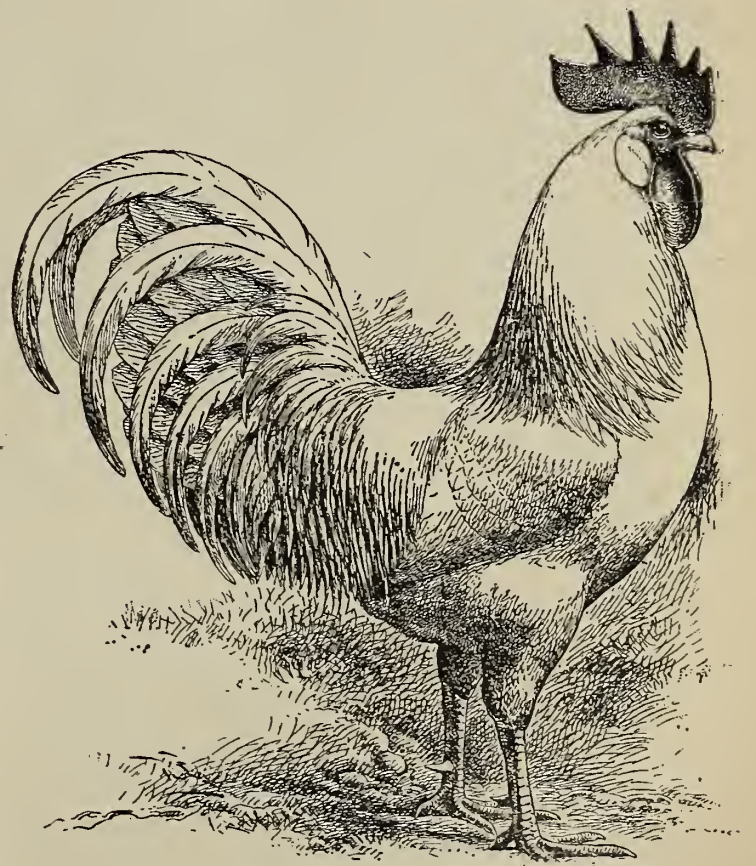
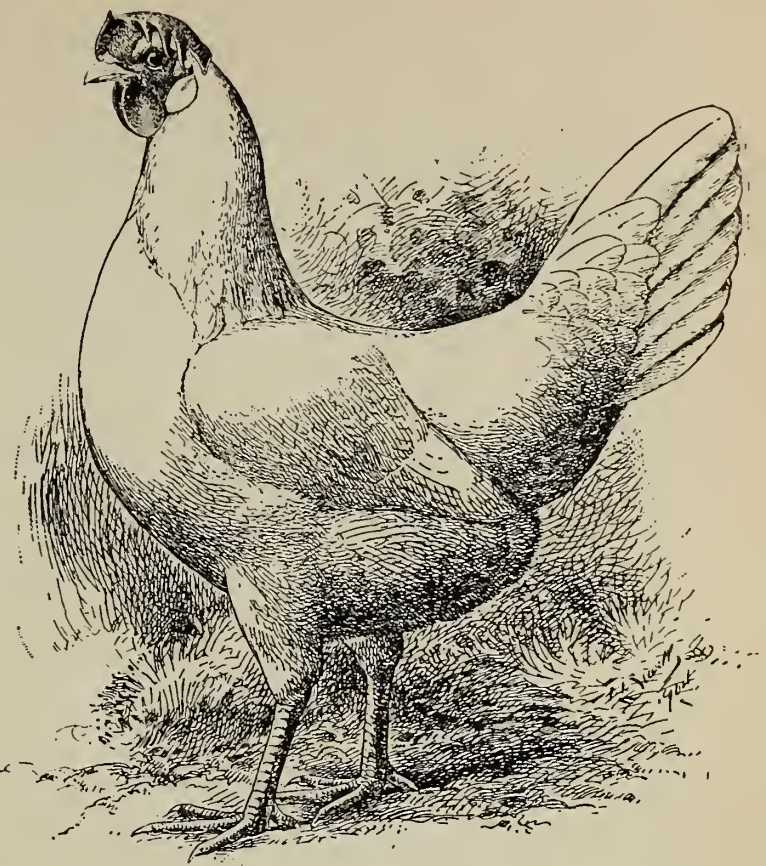
Taking Mr. Ludlow's drawing so far as the bodies are concerned, there is not much to be said except that the birds might be rounder in front. But I submit that the tails are by no means typical, in that they should be much fuller in the cock and carried higher in the hen. The appearance of the legs shows heavier bone than a true Leghorn ever had or should have.

It is, however, in the heads where serious fault can be found. The combs are, in my judgment, not those of the Leghorn at all, but really of the Minorca, carried too far in front and behind, too high, and much thicker than should be the case. It will be seen that the hen's comb is represented as having a double fold, which is most objectionable. We know that Leghorns have a large comb, but that has been carried to an extreme and may be a serious evil. In the last conversation I had with the late Mr. Lewis Wright he agreed that the tendency to abnormal development of size in comb was becoming a danger to the economic properties of several breeds, and I understood him to say that he had insisted upon reduction of Leghorn combs in the drawings for the last edition of his great "Book of Poultry," in which I think they are yet too large. In the American standard the illustrations show Leghorn combs as they ought to be, totally distinct from the Minorca type. As might be expected, the wattles in Mr. Ludlow's drawing are also too long.

Another fault is in the ear-lobe. The large pendulous deaf-ear is not characteristic of the Leghorn. It should be much smaller and, as this is a merely arbitrary and useless point, exaggeration is a mistake. Moreover, a neat ear-lobe is much more in conformity with the general contour.—I am, yours faithfully,

EDWARD BROWN.

"The Chestnuts," Theale, Berks.



AMERICAN WHITE LEGHORNS.

Reproduced from the "American Standard."

PREPARING FOWLS FOR SHOW.

ALTHOUGH condition is not the only point which is taken into consideration when judging fowls at exhibitions, most adjudicators show a decided preference for those specimens which are placed before them in a cleanly state. Whether they are right or wrong in so doing matters little. The fact remains, and since that is so, it is advisable for fanciers to pay particular attention to the subject. In the preparation of fowls for exhibition there are many different phases which must be considered, but not the least of them is washing.

To the novice there are apparently few things which are more difficult to properly accomplish than washing a fowl. But despite this, it is really a much more simple undertaking than many poultry keepers seem to imagine. There is no secret in it, and after a very little practice the whole process becomes practically as easy as washing a rag!

So great is the propensity of dust to adhere to the plumage of fowls, and more particularly, of course, to that of the soft-feathered breeds, that almost every variety requires a certain amount of dressing before being staged for competition. Different classes of fowls, of necessity, require different treatment. Game fowls, for instance, and male birds of a dark colour should not have their plumage completely soaked; but pure white fowls and those which have much white about them generally want a thorough washing prior to their appearance in a show pen. And it is well to remember that buff birds of a light shade are usually much improved by it, while it is also extremely beneficial for all varieties (no matter what their colour may be) of the soft-feathered breeds. And the better such birds as those are washed the greater is their chance in competition.

Where only "a sponge over" is needed in the case of hens a clean handkerchief held in the steam of boiling water and smoothed over the feathers while it is slightly damp will generally prove sufficient, and it will not interfere with the webbing of the feathers. With cocks, however, in which the narrow hackle feathers do not need to web again so perfectly in order to look well, a solid and rather rounded nail-brush and a supply of clean warm water will be more serviceable. Rub the brush sideways repeatedly over every part of the hackle, back, sides, and saddle until the dirt is off, always brushing straight down the feathers.

I am, perhaps, "putting the cart before the horse." Prior to dressing any part of the plumage the "extremities" of the fowl should be cleansed. The legs and feet should be well and briskly scrubbed with soap and warm water by means of a nail-brush, and when they are clean it will be found advantageous to trim the edges of the scales with a fine hairpin, since dirt is very apt to lodge there and present an objectionable appearance. The comb and face should then be treated, but in this direction a loofah will, perhaps, answer better than a brush; and there is generally no need to use soap. The person who is undertaking the task should be very careful, however, if he is cleansing the head of a fowl with white lobes to see that they are not soaked; a slight application

of pure grease or some preparation of cream will prevent the lobes being affected by the water. Hens generally do not look well if merely touched up, and their plumage requires a thorough washing; but in this case it should be done with a sponge, warm water, and soap. A brush should not be used on a hen, since it will prevent all but hackle feathers webbing again. And soap should not be applied directly to the plumage; have it shredded, put into boiling water with a small piece of washing soda, and either boiled or whisked into a lather. The only care to be observed is that the feathers are not rubbed the wrong way—wash down the feathers, not against them. With this exception wash as much as possible, and be sure that the plumage is wet through—there must be no surface cleaning only, the very foundation must be reached.

When the feathering is clean all soap must be thoroughly washed out, and for this purpose the bird should be well swilled with clean warm water. No soap must be left in feathers, so if there be any difficulty in removing it add a small quantity of borax to the rinsing water. It is an essential point, since if any, even the least, soap remain the feathers in that part will appear draggled and will not web properly. The first process of drying is to have the plumage rubbed gently downwards with a sponge or with a piece of new flannel warmed before the fire. This will take much of the water out; but the fowl must be thoroughly dried, and it is here where many poultry keepers fail to make their birds present the best appearance possible.

Much has been written of late anent the great tendency of the fancier to increase the size of his fowls. But in many instances, and particularly among exhibitors of such breeds as Orpingtons, Cochins, and the like, this increased size has been due more to the improved methods of drying the birds than to any undue fattening for exhibition purposes. In short, instead of putting the fowls into a wicker basket or on a perch before the fire, they have been allowed to dry in a patent drying machine, or as it is generally known, a "fluffing-out pen." Such a contrivance has been recently put on the market by Messrs. Charles Toope and Sons after having been thoroughly tried by many well-known fanciers. The great advantage of this arrangement is that the plumage webs well; and it causes the fluff of the fowl, indeed the whole feathering, to "stand out" more than it would do if the bird were dried as previously mentioned.

As a rule it will be found that a complete wash removes the gloss from the plumage. For this reason, therefore, the operation should be performed some days before the show; and if during the intervening time a small quantity of linseed is added to the diet there will be a fresh secretion of oil, and the birds being kept perfectly clean in their training pens they will be in the very height of condition on show day. It is considered by some novices that for white or buff fowls gloss is not of much importance, consequently such birds are very often washed on the day before being exhibited. But it is beneficial to have a good lasting lustre on the plumage of all light-coloured fowls, and not one which is put on at the last moment with the aid of a clean white silk handkerchief.

Many fowls, if kept in proper hard plumage, do not need a thorough wash; but loose feathered birds always become comparatively dirty. On the other hand, such breeds as Cochins, and of later days Orpingtons, even though clean, are often washed merely, as has been mentioned, to increase their apparent size. In the case of light buff colour a good wash tends to darken the plumage, while with Silkies it decidedly improves the texture of the "silk" and gives the birds the fluffy appearance which is one of their chief characteristics.

NOTES ON EXHIBITIONS.

THERE can be no doubt that the most important of the seventy odd poultry shows which were held during the past month was the "Dairy," which proved to be quite as popular as ever. But since a general *résumé* of it appears elsewhere in this impression, we need only chronicle in these notes the bald fact that the Dairy Show took place during the second week of October.

The chief event of those held north of the Tweed was the "Dairy and Scottish Palace Show," the first Edinburgh and Midlothian Poultry and Dairy Exhibition, which took place on October 7, 8 and 9. This fixture, as it will be readily seen, clashed with the London "Dairy," but it is safe to say that it in no way interfered with the latter show, while, so far as we have been able to judge from the list of prize winners, the Scottish exhibition did not account for one entry which in other circumstances would have been made at the Dairy. The Edinburgh event was a show for fanciers in Scotland, and as such it was doubtless a great success so far as first ventures go. The entry in the poultry section was 820, and since the classification stood at 104 (sixteen of the original classes having been cancelled) the average was presumably representative, while the quality of the birds as a whole was very satisfactory. The Waverley Market, Edinburgh, in which the affair was held, is a most suitable venue for an exhibition of this nature; and as the birds were staged in single tiers the general effect must have been very pleasing.

Another big show held in October was that at Manchester on the 20th, 21st, and 22nd, and as it took place under the auspices of the Manchester Poultry and Pigeon Association, it is entitled to be classed as the first important fanciers' exhibition of the season. The show is still in its infancy, the present being the tenth annual, yet on such excellent lines is it conducted, and so extensive is the classification, that it is very well patronised by exhibitors, and one has come to consider a win at Manchester as being almost as valuable as a score at the "Dairy" or the Crystal Palace. Manchester is, in fact, the Palace of the North, and the hall in which the show is held each year in the well-known Zoo, called Belle Vue Gardens, is as ideal a place as the great glass house at Sydenham. And in these times of short entries it is a pleasure to write of the show being a success, so far as a goodly number of entries goes to make a success. Three specialist clubs held their shows in connection with the event, viz., the Waterfowl Club,

the Andalusian Club, and the Sebright Bantam Club, and altogether it was a most attractive exhibition.

Kendal Game Show took place on the 29th ult. This is a great specialist exhibition, at which competition is confined to Game fowls and Game bantams; and prizes to the value of £200 were offered at the recent event. Some of the very best specimens in the world were on view, the display being of the Modern and Old English varieties, and four well-known specialists officiated as judges. Kendal is, of course, in the heart of the Game country, so it is not surprising that the event was well patronised, both as regards entries and "gate."

Among other very representative shows held last month may be mentioned that of the Nottingham and District Fanciers' Society, which took place on Goose Fair Friday and Saturday; it was a most conspicuous success, and the entries in the poultry section averaged fifteen a class. Liskeard, Exeter, Frome, and Hayle were all held on the 14th inst., and on the same day there were exhibitions on similar lines at Stanford-le-Hope, Essex, and Churchtown, Lancashire. With so many events in a comparatively short circuit of the West country, some were almost bound to suffer, and the pinch appears to have been felt mostly at Frome, Somerset, and at Hayle, Cornwall, many classes being cancelled at the latter show and others amalgamated. On the other hand, however, the turnout at Exeter, Devon, was a record one, the entry being very largely in excess of that of previous years.

There was a good exhibition at Leamington Spa, Warwick, on the 15th ult., when the special feature was the Wyandotte section, consisting of thirteen classes, while on the same day there was a capital display of poultry at Blackwood, Monmouth. Quite a good number of shows took place on the second and third days of the Manchester event, and among the best were Eastbourne, Sussex, and Caterham, Surrey. At the former there were fifty-eight classes and well over 400 entries, the chief breeds being the Sussex, Orpingtons, Wyandottes, and Leghorns, while Caterham, which caters for the Fancy in an extensive manner, was not such a large affair as it deserves to be, since owing to the paucity of entries, on account of the clashing, some classes had to be cancelled; although it was by no means a small show.

At Weston-super-Mare, Somerset, on the 22nd ult., and Framlingham, Suffolk, on the following day, the poultry shows were quite up to the mark, while during the last week of the month such important fixtures as Bromley, Kent, and Morecambe, Lancashire, on the 28th and 29th, Oswestry, Salop, and Peterborough, Northamptonshire, on the 29th, took place, and on the last day four Scottish events, those at Kelty, Fifeshire, Galston, Ayrshire, Blantyre, Glasgow, and Haddington, were announced.

At Morecambe there were over seventy classes, with extensive classification for Plymouth Rocks, Orpingtons, Wyandottes, and Leghorns, and in the last-named breed Blues and Rose-Combed Blacks had two classes each.

Many important shows are announced for this month, and already ninety have been advertised to be held in November. The first will be at Barnstaple, Devon, on the 3rd and 4th, in the Market Hall, one of the finest and best-adapted venues in the kingdom

for a poultry show. Over one hundred classes are scheduled, and the Indian Game and Indian Game Bantam Club will hold its annual exhibition in connection with the event. Following this is the big general show at Kendal, Westmorland, under the auspices of the Kendal and County Poultry and Fanciers' Society, on the 4th and 5th, at which event 146 classes are given, inclusive of the Plymouth Rock Club's Show. Carmarthen is announced for the 5th, and at this exhibition special features are being made of Wyandottes and Hamburgs. Over fifty classes are scheduled for Ulverston, Lancs., on the 6th, Wyandottes, Orpingtons, Plymouth Rocks, and Old English Game figuring well in the lists. Sudbury, Suffolk, which is one of the best shows in East Anglia, will be held on the 10th, while on the following day there will be a big meet of specialist clubs at Bristol, since the Faverolles, the Buff Plymouth Rock, and the Partridge, White, Gold and Silver Laced, Silver Pencilled, and Columbian Wyandotte Clubs (each variety having a club to itself) will hold their annual shows there.

A week afterwards the Grand International Show will be held at the Crystal Palace, opening on the 17th and closing on the 19th. This will be the greatest event of the year, and it is not far short to say that it is the most important poultry show in the world. And there can be no question that a win at the

Palace is still regarded as the best possible score of the season. In the poultry section there are 430 classes provided, and no fewer than fifteen specialist poultry clubs will hold their shows in connection with it. The breeds receiving the largest classification are: Orpingtons, 27; Wyandottes, 26; Leghorns, 18; Old English Game, 16; Cochins, 14; Plymouth Rocks, 12; and Modern Game, 10; while Bantams get 112 classes and Waterfowl 31. Thirty-six specialist judges have been engaged, and a very large number of stewards will be in attendance. THE ILLUSTRATED POULTRY RECORD will have a stand at the show, and the Editor will be delighted to meet those interested in the "Fancy."

This does not, however, exhaust the November list, since there are important exhibitions to take place at Cardiff on the 18th and 19th, at Belfast and Newport on the 24th and 25th, at Carlisle on the 25th and 26th, at Cambridge and Reading on the 25th, and at Horsham on the 27th, while Birmingham Show opens on the 26th. Unfortunately, schedules of the Birmingham event are not to hand at the time of going to press with the November issue, but there is no doubt that the show will be on the usual extensive lines.

We will publish a general *résumé* of the Grand International Show at the Crystal Palace in the December issue.



Proportion in Feeding.

Although there is a practical necessity for the approximation of the several digestible constituents of food to the requirements of individual objects, the exact weighing and proportioning of rations is generally impracticable. It is quite sufficient for all the ordinary purposes of the producer to possess a general working knowledge of the feeding values of foodstuffs, and broadly to balance the dietary in accordance therewith—subject to such modifications as are suggested by personal experience regarding results. The economic purpose is, without irritating niceties of calculation, to approach as near as possible to the most suitable proportions of the nitrogenous and non-nitrogenous constituents of the food, the ratio of which may for the various objects of feeding be what

is termed narrow, medium, or wide; but as a workable basis for the ordinary purposes of practical production, it may be taken that an average of about one to five is most generally desirable. A useful example of a food approximating to the ideal average may be found in genuine ground oats, the whole grain and husk being reduced to a very fine digestible meal by the Sussex method of milling; in this meal the average proportion of the required constituents is about one to four and a half. In most circumstances it is found that stock birds, for either laying or breeding, require a ration ranging from narrow to medium (say from one to three to one to five or six), varying according to season and local conditions; and fattening fowls, or other stock in severe weather, may require to be fed on as wide a ration as perhaps

one to nine—again according to modifying circumstances. Nevertheless, although approximation to a theoretical idea is helpful, the relative accuracy of the balancing will be insufficient if there is a failure to take into consideration the innumerable variations of individual conditions, which make the universal application of feeding tables a practical impossibility.

A Varied Dietary.

Always essential, the necessity for change in the dietary is intensified as the natural resources of the poultry range become seasonably limited. The shortcomings of the feeder may be more or less remedied during the open months by the greater ability of fowls to exercise some instinctive discrimination regarding vegetable and insect food; but in the coming season foraging is a comparatively profitless undertaking—apart from the benefits of activity. Unless the large producer provides the necessary variety and character, the small egg producer is relatively better off in winter on account of the sufficiency for his purpose of the available broken food from his own table. The farmer gives his pigs much kitchen and other refuse that might be more profitably fed to his fowls, and, although the value would be practically lost if fed indiscriminately to a large stock, such egg-forming material might very well be reserved for the layers. If only on account of their varied character, such house scraps of meat and vegetables are better than purchased substitutes for the summer range of natural food; and, by way of seasonable variety in corn feeding, the climatic changes will probably soon justify the sparing use of maize and barley.

Hatchable Eggs.

That the hatchability of eggs depends largely upon what may be called adventitious circumstances is a fact evident to the observant producer, but it is also a constitutional matter, and there is an individuality in this as in the production of mere numbers. The breeder of table poultry should therefore bear this important point in mind in the selection of his breeding stock, and as far as possible adopt some simple method of identification; because, although the total egg yield is a matter for consideration, it is of greater moment to him that the eggs should be suitable for his purpose. Assuming that the selected stock birds are constitutionally fit, the maintenance of vitality involves many considerations, inasmuch as it concerns not only the existent stock but the character of the embryo in the egg and the stamina of the desired chicken. It is natural that the feeding of the parents should have an important influence upon the progeny, and the producer who depends upon stimulating foods to force egg-production is going a long way towards the destruction of vitality in its inception; the hatchability of the egg being further influenced by hygiene, the method of housing, the extent and character of the range, and all that in any way affects the well-being of the parent stock, both male and female.

At Mating Time.

Upon most farms, and more particularly where the production of table poultry is a feature of the

operations, the inevitable unrelated cockerel is introduced to his mates at about this time; and the usual exhibitions of hostility continue until the first strangeness gives place to complete acquaintance. Watchfulness is, however, especially requisite for some little time after mating, lest the male select a favourite, or a victim for bullying; either mischance necessitating a rearrangement. Any persistent disturber of the peace or provoker of strife (other than the necessary male) must be removed in the interest of that harmony which is so essential to successful breeding. The introduction of strange birds to the roost house at night tends to a better understanding at daybreak, but the haphazard daylight turning down of fresh stock is immediately provocative. When the arrangements of the breeding pen are satisfactorily completed, they should not be subject to any disturbance until the close of the season, the careless reintroduction of a hen after sitting and brooding being very often the unsuspected cause of a reduction in subsequent hatching percentages. The mixed character of the feathered stock on some farms is alone sufficient to interfere seriously with fertility, as anyone will realise who has noticed a cantankerous gander chase a rooster from the company of his hens, or the fluster among the smaller fowls caused by a fiery-tempered turkey-cock. A mixed production is often a hindrance to the full success of any section, but an undivided running together of all descriptions is more or less fatal to the object of all matings. The hatchability of the egg depends upon a sequence of favourable circumstances, of which the maintenance of peace in the breeding pen is not the least important.

FATTENING CHICKENS FOR CHRISTMAS.

By J. W. HURST.

THE Christmas demand for large fattened fowls is of a special character, and although the total December consignments of those who are engaged in the fattening industry are generally small in comparison with their output during the preceding five months, yet their daily totals immediately before Christmas equal the largest consignments of the London season and double those of other periods. The finest specimens of this production are not infrequently described by the retailers as "capons," although caponising is practically unknown among our commercial producers; these so-called capons being well-grown and well-fattened birds of some five or six months old, classed as chickens, but a little older than the average of the normal production. Well-selected birds of a suitable breed may be fattened to an approximation to 6 lb. apiece at five months of age, which is not, of course, excessive as far as mere weight is concerned; but where quality and appearance are considerations it is a very safe limit. A weight of about 10 lb. usually implies an age of over six months, and is generally accompanied by undesirable coarseness and grossness. Such weights as 7 lb. and 8 lb. are often attainable without material loss of

quality, but seldom in any number. Nevertheless, although quality must be considered in relation to size, for the satisfaction of a section of the demand, there is yet a division in which size and weight appear to be of greater importance than fineness of quality; and the average Christmas buyer sets a special value on large fowls.

In preparation for the satisfying of this demand, the earlier selections for ordinary routine fattening must leave in reserve the most forward birds of those that have already attained a promising growth and development; the penning for fattening of the specially selected taking place not later than about the second or third week of November. In order to obtain the extra weight the normal fattening period of from three to four weeks is insufficient, and the highest weights cannot be attained in less than from five to six weeks of special feeding. It is, however, very easy to overdo the fattening process, and no general rules can be formulated, that shall apply to all fowls equally; it is very largely a matter of individual health and temperament; and to bring any number successfully through the longer process presupposes considerable skill in the fatterer and is quite beyond the powers of any but the experienced.

The average producer, as apart from the man who specialises as a fatterer, will generally do proportionately better by subjecting his birds to the more ordinary fattening period, using only well-developed chickens of a large-framed variety.

Pen fattening is a very unnatural method, and the uninitiated usually commence by over-feeding, failing to realise that it is only the food actually digested that benefits and not the mere quantity consumed. Over-feeding not only involves the loss of a portion of the food, but the surfeited fowl loses condition instead of gaining weight, as also will the unhealthy ones or those of a restless disposition. A preliminary fast when the bird is first penned is as essential to the making of a good start in the process as the final withholding of food before killing is necessary to the appearance and condition of the dressed bird. A secluded

situation is necessary to contentment, disturbance and any extent of visual range, including fowls at liberty, inducing a restlessness and irritability incompatible with the desired increase of bulk. The food, consisting of Sussex ground oats, mutton fat, and milk, should be rather thinly mixed at first, but gradually thickened, although it should always be pourable; and the birds should be trough fed twice daily.

During the ten days or more of trough feeding the amount of food supplied must be carefully regulated and gradually increased, but on no account should the quantity be excessive at the commencement; the birds cannot stand heavy feeding at the beginning of close confinement, and require, as it were, to



HIGGLER'S CART, MR. BEN TAYLOR'S FARM, UCKFIELD.

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be educated up to it. The food should not be too long left before them at any period of the process, the trough being removed when the birds are sufficiently satisfied—according to the judgment of experience. In the production of the less highly finished class of fattened fowls, trough feeding comprises the whole process, and a considerable improvement in condition may be achieved in a fortnight, or as much longer as the birds will bear the treatment; but, if too long continued, they will retrograde more rapidly than they advanced.

Machine cramming, whether for a long or short period (which depends upon the fowl and the man), can only be successfully accomplished after a practical training under an experienced fatterer; but this branch of the subject will be dealt with (as far as possible) in the December issue.

PULLETS FOR WINTER LAYING.

By ARTHUR NEWPORT.

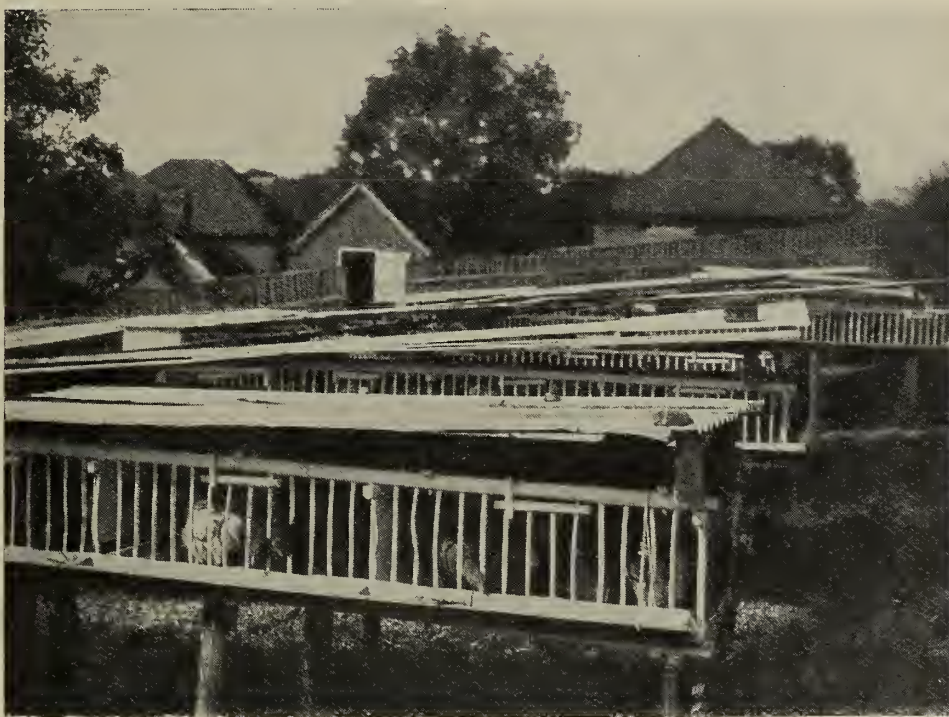
TO secure a supply of home-laid eggs during the winter is the ambition of every poultry keeper who recognises that his birds have an economic value. Unfortunately, some are not yet very successful, though in most instances the disappointment may be traced to a waywardness of the owner rather than to inability in the birds, for there is a class of men who, either from love of experiment or some equally obtuse cause, refuse to adopt the methods that others profit by. But even among the last-named section, those that profit by following good advice, there is a discrepancy of results that ought to be bridged over and a higher general level attained. Winter laying is, in effect, a natural process developed and sustained at an unnatural period of the year, and those who realise this most fully, and set out their plans accordingly, are the ones who achieve the greatest results. Within reasonable limits, it may be taken for granted that any full-grown pullet, whether pure-bred or mongrel, will lay eggs if the natural tendency is promoted and the unnatural element overcome. The great factors in securing this combination are: Hatching at the right time, rearing properly, and correctly housing and feeding when the age of laying draws near; the neglect of any one of these is wholly fatal to the end in view. If, in addition to these points, the inherited instinct of the pullets is to lay many eggs with but a short interval of rest between each, it is an obvious advantage. This is where "laying strain" scores so heavily, and to it is due much of the discrepancy mentioned.

At this time of the year the housing and feeding will be the important features and, assuming the hatching and rearing to have been duly and efficiently accomplished, the pullets should, in October, be sufficiently matured and should bear evidence by their shape, brilliant plumage, alertness, and the fretful outbreaks of impatient cackle, that they are not far off the laying point. Remember, however, this is a critical period of their existence, and it is not the spring time that is drawing on them with its wealth

of fresh plant growth, abundant insect life, lengthening days and sunshine, and a genial invigorating atmosphere. These are what their nature craves for and, in the proper season of laying, would get; but, instead, they are to encounter a chill barren earth, sombre dank fogs, biting frosts in the long nights, and fitful gleams of sunshine interspersed with snow or cold, sleety rain. The contrast seems too great for the possibility of egg production, but care, thoughtfulness, and common sense will go far to delude, or rather induce, the birds to follow the course they are wished to take.

Having pointed out the winter's discomforts and the need of overcoming them by some approach to the conditions spring would afford, the appended hints may be found most useful towards securing the desired end. The sleeping house must be dry in all parts, substantially built of good thickness timber,

and draught proof, but not utterly devoid of ventilation, which should take place at a higher level than the birds are at when on the perches. It should be neither too large nor too small for the number of inmates, and the estimate of accommodation should be 10-12 cubic feet of air space per bird. If an open-fronted scratching shed is provided—and this is a valuable auxiliary—the earthen floor of it must be kept dry, for at



OUTSIDE FATTENING CAGES, MR. WICKENS'S FARM, DANEHILL, SUSSEX.

[Copyright.]

this season, if it gets wetted by driving rain, it remains damp for weeks and may then be more harmful than otherwise. Here, a loose canvas screen that can be instantly run across the wire netting front is an acquisition, since it keeps out rain, snow and rough wind, while allowing enough light to pass through for the birds to scratch by. On an average of 10 square feet of earth floor per bird the denizens of a covered shelter may be confined for a week or more at a time when the exigencies of the weather demand it, and they will be happy, healthy, and productive—but the dryness underfoot is essential.

The food supplied at this season must be of good quality and bulky, for it should be borne in mind that little or no sustenance is obtained by foraging, and on the diet largely depend the completion of the growth of the bird and the contention with adverse weather. The morning meal, given soon after daybreak, should be of warm soft food, and if it varies from day to day

so much the better. Among the changes possible the following are recommendable as bases: Biscuit meal soaked in hot water for 10 minutes; small or "chat" potatoes freshly boiled, drained, and mashed with the garden rake while hot, adding a little fat; maize meal steeped in boiling water overnight or at least two hours before using; table and cooking refuse (except bread) boiled overnight with a little sound cheap rice; bread scraps soaked in warm water and drained. To each of these bases put granulated meat meal—a quarter-pint to every eight or ten birds—letting it soak or boil with the other, then stiffen the whole to crumbliness with coarse middlings (sharps).

Where pea-meal or bean-meal is procurable it may take the place of meat occasionally, but neither is as satisfactory as meat, nor as cheap. Fresh meat in the form of horse-beef, lights, liver, trimmings, &c., is not always handy, but when obtainable is better than the granulated meat; cut green bone is another passable substitute when freshly prepared. Season the soft food slightly with salt. When a grass run is not available, or weather forbids its use, a little greenstuff should be supplied. The afternoon meal should be of hard sound corn, wheat, barley, oats, maize, and a mixture of half oats and half maize. Change these about almost daily, and when the birds have to scratch for it, it should be distributed some time before dusk so that they may gather a full feed before going to roost.

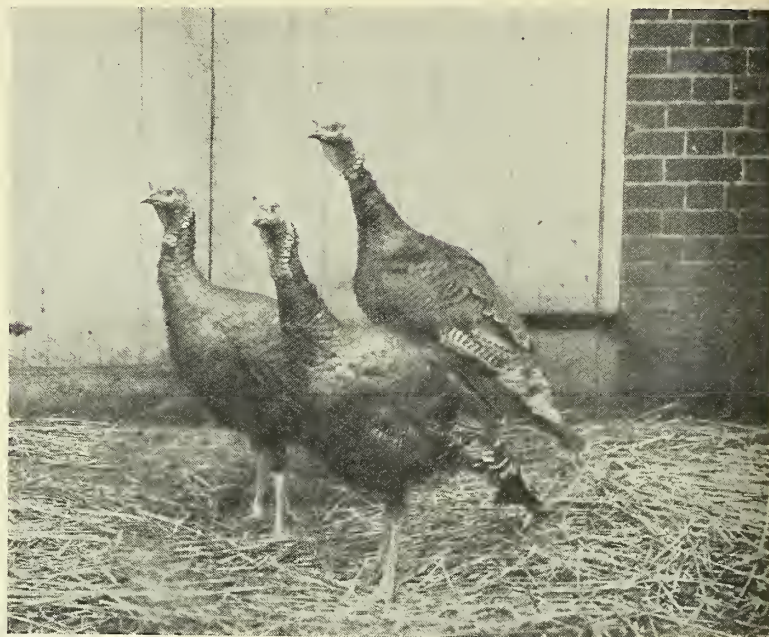
FEEDING TURKEYS FOR CHRISTMAS.

By G. HARPER.

IN preparation for the Christmas demand it is necessary to select only such birds as are of a suitable description, carry a large quantity of breast meat, and are capable of attaining an early maturity. They must have the feathers well up before they will begin to lay on flesh and be fit for fattening. The special feeding for the purpose practically commences at about the middle of August,



A Shed for Fattening Turkeys. By courtesy of the N.P.O.S.



American Bronze Turkeys belonging to Mr. Gage Harper. [Copyright.]

when some of the corn fields will be clear for them and they can be run on the stubbles, new corn always materially assisting a good growth. Provided such a run is available, they should further be fed every afternoon with a mixture of two parts of wheat with one part each of barley and oats, all well ground into meal, and mixed rather thin with water, milk, or whey—the proper consistency being that of good cream. This mixture should be fed in long narrow troughs at the height of about a foot above the ground, and, if as liquid as recommended, it supplies the required proportion of moisture for birds run on stubbles and assists the digestion of the corn—especially in a dry season. In the event of a large number of turkeys being run on the stubbles, it is better to employ someone to keep them out during the day and to bring them home to their feeding place at about 3.30 or 4 o'clock, in order that they may have a good feed, with enough time afterwards to pick a little grass or green stuff before going to roost—as is their natural habit.

The above method of feeding should be continued until the stubbles are about cleared, when it will be necessary to commence feeding twice daily, using a rather thicker mixture composed of two parts each of wheat and barley, with one part each of oats and buckwheat, all well ground together. All the ingredients should be good quality English corn, as it is impossible to fatten properly on inferior foodstuffs. When the birds have consumed all the meal they are disposed to take from the troughs, a few peas or beans—the former for preference—may be scattered around for them. They must have free access to clean water, and it is advisable to have a few heaps of road-scrappings or flint grit for them to peck at. They are also very fond of chalk, which I think helps to keep them in health. Kohl Rabi, cabbage, or swedes should be given them to peck at in the middle of the day, and they require a heap of burnt earth or ashes for a dust bath, placed in some sheltered sunny position, where

they can bask and amuse themselves for an hour or so in the middle of the day and free themselves of vermin.

From about December 1 until killing time they require additional attention, and should be fed three times a day. It is useless to put a lot of food in the troughs and leave the birds to help themselves, the better method being to put in a little at a time and tempt them to eat as much as possible. When they will eat no more from the troughs they will usually scramble for lumps of stiffly mixed meal thrown amongst them; and when they are quite satisfied with meal, and have rested some fifteen or twenty minutes, they may be given a feed of peas placed in the troughs or scattered about. If milk is available for drinking purposes during the last three weeks, it will whiten the flesh and improve the flavour.

I prefer to have my turkeys out every day, and feed them in the open, unless the weather is very bad indeed. If they roost under cover they require very large roomy places in order to avoid over-heating at night, and such roost houses must be kept very sweet and clean. Finally, it is necessary to have an experienced hand to kill and dress turkeys for market, many good birds being spoilt for sale on account of unsuitable dressing and preparation.

THE COST OF PRODUCTION OF BROWN AND WHITE EGGS.

To the Editor of THE ILLUSTRATED POULTRY RECORD.

SIR,—One cannot help wondering whether those who require brown eggs in preference to white have any idea how heavily the small poultry farmer has to pay for their whim. I have never made extensive experiments in order to determine the difference in the cost of food needed for a year to keep the layers of brown and white eggs respectively. A very few days' or weeks' observation of the individuals of the heavy breeds in my possession has proved to me the wisdom of leaving such experiments to others. Others who sell expensive sittings, or who can dispose of the cockerels in the highest markets, might test the birds without loss, but for those who produce eggs for table purposes only I think I am not exaggerating when I say that to cater for the brown egg market is to farm at a loss. I have never known a man making a living from egg production, who kept any breed heavier than the small type White Wyandotte, the nearest in habits to the non-sitting breeds.

In farming for eggs only one has still to consider the disposal of the cockerels. They must be kept for a certain time, and the less they eat and the sooner they are ready for clearing the better. A bird that is plump for killing at eleven to thirteen weeks naturally brings greater profit than one that must be kept for fourteen to sixteen weeks, and if he eats less all along the line, then one does not need to experiment for a year to know that he is more profitable than the other if he fetches the same price in the end. And it is here that the beginner and small farmer is hard hit, for he usually has to sell locally, and seldom gets a penny more for a 5 lb. than for a 4 lb. bird.

Chickens sell in the country, or where private hampers are sent out, at a fixed price for a given season, not by weight.

My experience in this direction is small, but so far I have only met one light breed with appetite equal to the heavy breeds, and that is the Silver Campine. I once put up five Scots Greys to fatten at the same time as three Buff Orpington-Silver Campines. The food was not weighed, but I filled their dishes myself and the three heavier birds had to get a heaped spoonful more than the five lighter, and they were not so meaty when killed; while the pullets did not lay so well. Five Scots Greys were again fed against four Black and one Barred Rock. The Greys were off my hands at twelve weeks, at which age the Rocks were all bones and had to be kept nearly three weeks longer, by which time prices had fallen. They had eaten nearly a plateful a day more than the Scots Greys during the last two weeks of the Greys' lives, so the loss on them was considerable. The Rock hens, receiving the same dole from an assistant as the rest of the flock, proved poor layers, but when given a small spoonful extra at breakfast and a small handful more grain at night they laid very well; but again the cost was too great. I was told that this would be balanced by the higher prices obtained in winter from the best London caterers and dairies, and that if I wanted to make poultry pay I would have to consider the tastes of the wealthier classes.

Inquiries resulted in offers from various firms who paid one half-penny a dozen above the market price, and required that no egg should be under 2 oz., and that at least half should be tinted or brown. One offered a slightly higher price, but required a thousand a week (in October and November!) without fail. I sat down and calculated the cost of producing fifty per cent. brown eggs all over 2 oz. in October and November. I based my calculations on the average then obtained at the winter laying competitions, and found that to produce ten dozen brown eggs (the minimum for which contracts were offered being ten dozen, two or three times weekly) would require at least forty to fifty birds.

Of the heavy breeds, the smallest eater so far as I am aware is the present day White Orpington, but she was ruled out on account of the size of her eggs, which have the disadvantage of a shape that makes them look smaller than others of the same weight. The appetites of the Barred and Black Rocks proved prohibitive, while Wyandottes were too destructive for my arable runs. There remained the modern English Leghorn, with her tinted to brown eggs, and the Buff Orpington. Langshans I never tried. The English Leghorns I possessed were poor layers, and I could not find any guaranteed to do better. So the question was, would the sixpence a case of ten dozen (the highest price) above market price pay for the extra amount of food consumed by about a hundred growing Buff Orpingtons, and cover the cost of the extra number needed when summer brought broodiness. Judging by the few Buff Orpingtons I ever possessed I thought *not* in the case of the pullets, and I was very sure that it would not in the case of the cockerels.

Therefore I declined the munificent half-penny a dozen, with all its embarrassing conditions, in favour of market price for any colour and all sizes. Later I was able to sell all eggs locally, and when a retailer came saying, "Them eggs is the wrong colour; they wants 'em brown," I said, "Certainly, but then they will be threepence a dozen more." It was quite astonishing how quickly all discovered the merits of those white eggs, and from that day I never heard another word on the subject of colour.

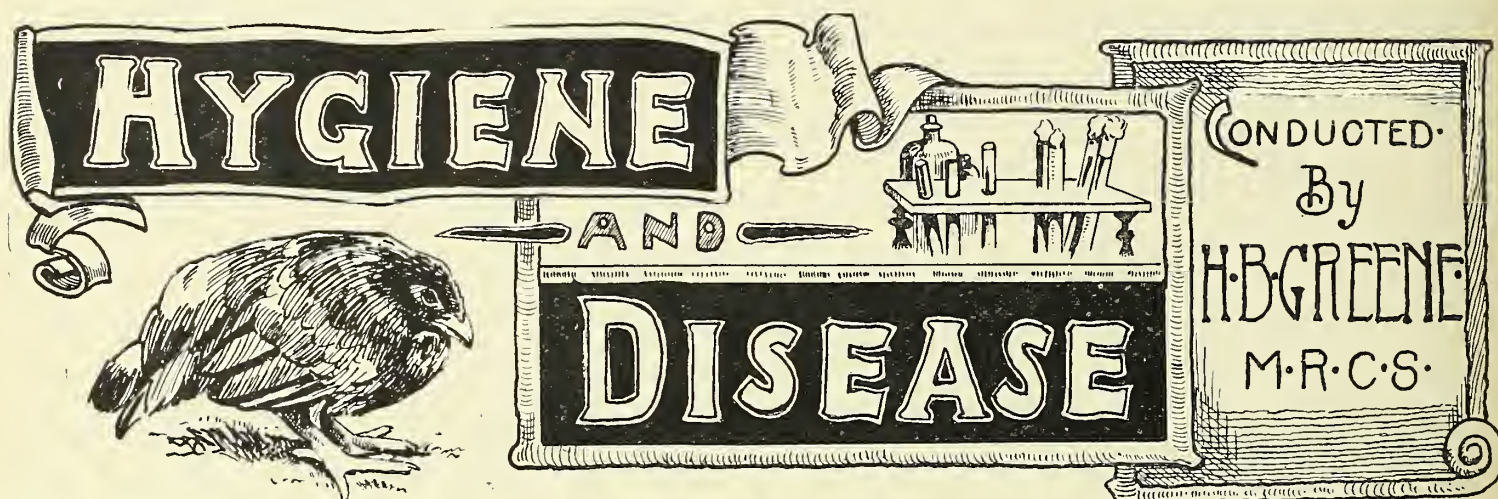
If there be any who still believe in the fiction that brown eggs are richer than white, let them try a simple test by asking the cook to poach or to beat up one of each from the same farm, and then let those of the discriminating palates tell us which came out of brown and which out of white shells. If it be beauty on the breakfast table that occasions the fad, would it not be possible to alter the cup to tone with the egg? Might not the wealthy give the order to the potter to design cups in which white eggs would look as "sweetly pretty" as brown, and so incidentally encourage the handicrafts and benefit two classes, instead of injuring one? Or might not

the cook be ordered to colour the daily breakfast egg brown just as she colours the yearly Easter egg violet or pink?

I have no wish to injure the popularity of any breed. All have excellences, but if those who interest themselves in the poultry industry, the "back to the land," or small holdings movements, are in earnest, I would ask them to consider seriously whether this costly fad, the burden of which falls on the small producer, might not be checked by a counter movement, a White Shell League, to encourage the production of eggs laid by the lighter or non-sitting breeds of poultry. A breed that lays the highest number of eggs and produces cockerels that make ideal "*petits poussins*" at six to eight weeks, or good chickens at twelve, as for instance the Scots Grey, is surely more profitable for small holders than one that eats more, goes broody frequently, and produces cockerels that must be kept to fourteen or fifteen weeks, or crossed with some other breed, thereby necessitating double pens. Such, at least, has been my experience.—Yours, &c.,

October 17, 1908.

A. S. GALBRAITH.



Slow Feathering in Chickens.

A correspondent signing himself "Poultry Farmer" writes that, having read in Mr. Edward Brown's "Report on the Poultry Industry in America" of the prevalence in that country of bad feathering in artificially reared chickens, he has noticed a considerable increase in the tendency towards this defect among his own birds during the last two or three years, and would be glad of suggestions as to cause and prevention. And "Poultry Farmer's" experience is by no means an exceptional one. Moreover, complaints are not confined to slow feathering, but the plumage when it does come is not what it ought to be. Lastly, it is important to mark that the deficiency, without being limited to brooder-reared birds, is much more frequently met with in them than in those running with the natural mothers. Two theories have been advanced in explanation of the phenomenon. One, that it is due to excessive or badly-regulated brooder heat; an attempted solution which does not meet the difficulty, since the most careful regulation of temperature has failed to quicken the quills. The other theory suggests that breeders are unconsciously selecting a race in

which this undesirable character has appeared and is being reproduced as a variation. This interpretation is a fanciful one and scarcely admits of serious consideration. Such a variation could not spring up suddenly and simultaneously in so many different places, nor could it be fixed purposely, and much less unconsciously, by breeders in so few years. Neither of these theories is free from objection. My own opinion is that tardy feathering in chickens is solely brought about by *deficiency in the supply of animal food*. In the matter of obtaining grubs, insects, and worms, the chick foraging with the mother has an immense advantage over his brother in the brooder, but even he may find his lot cast on a patch of ground on which, owing to close attention of previous generations of fowls, insects have become almost extinct. The brooder chick also is exposed to the evil of dry feeding—in America to a greater extent than on this side, although here the dry feed owes some of its popularity to the fact that it saves the lazy poultry keeper some early rising. In nearly all dry mixtures the albuminoids occur in much too low a ratio, or else their ratio is raised by an addition of split peas.

Under such a dietary the body may apparently increase in fatness and weight while feather, an animal substance dependent for its growth on animal food material, is at a standstill. It is a remarkable fact that while it is easy to overcharge a young chicken with starchy and fat foods it is scarcely possible to give him too much fresh animal food while he is feathering, provided that he has exercise.

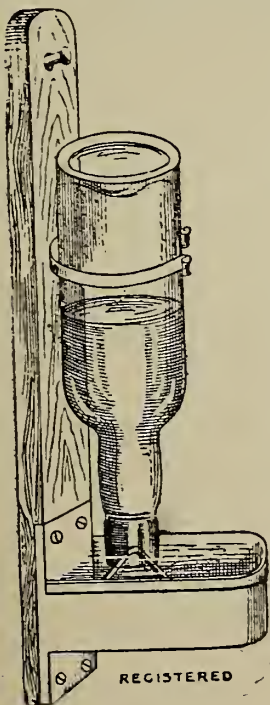
To "Poultry Farmer" I would therefore say: Give your brooder chicks worms if obtainable, and if not substitute chopped *raw* meat, oatmeal, and onions, taking care that the meat is from a healthy carcass, and there will be little cause to complain of slow feathering.

A New Food for Layers.

A notable exhibit at the Dairy Show was a new food or rather combination of foods recently brought out by Messrs. Spratts' Patent, Limited, to which they have given the name "Laymor." As the title implies, it is intended to supply poultry with a rich dietary, especially balanced with a view to an increased output of eggs, and an examination of the various cereals and other ground seeds which, together with meat fibre, go to compose it, reveals exceptional nutritive value and a high albuminoid ratio. So rich, indeed, is "Laymor" in nitrogen that it will very well bear dilution with a third part of pollards or of brewers' grains. Such a morning mash is an ideal repast for fowls, immediately preceding as well as throughout their laying period. "Rapid returns require rich ratios" is a motto that might well be painted on the henhouse door. Judging from its composition, "Laymor" is calculated to justify its name and aid the hen to attain to the standard of life laid down as necessary for existence in these strenuous days of trap nests and laying competitions.

Hygienic Drinking Fountain.

Among other attractive appliances on view at the Dairy Show stand of Mr. Randolph Meech was an improved bottle fountain for poultry, which, for simplicity, cleanliness, and economy in price, would be hard to surpass. The appliance consists of a piece of wood forming a back support, which can be hung on a nail at any height required. To this is attached a zinc water trough, from the bottom of which rises a V-shaped hasp, while half way up the back board is a metal ring. A large bottle, such as a champagne quart, is all that is wanted to complete the fountain, and this, filled with water, is passed through the metal ring and inverted in the trough, the nozzle resting upon the hasp. The advantages of this contrivance are that, as it can be fixed at



a sufficient height to avoid soiling by earth or excrement, the water remains clean, a supply is maintained without overflow, the bottle can be easily removed for refilling, cleaning, or disinfecting, and the contents can be exactly medicated with iron, &c., to any strength required.

POULTRY LICE.

By FRED. V. THEOBALD, M.A.

Vice-Principal and Economic Zoologist of the S.E. Agricultural College.

PARASITES are organisms which live upon or within other animals or plants, feeding upon them and so causing unhealthiness or actual disease. The animal or plant upon which the parasite lives is usually called the "host." This parasitism, by rendering the host unhealthy, predisposes it to other diseases, often of a fatal nature—such as the diphtheritic roup and tuberculosis in poultry. Some forms of parasites work directly on the host by causing some specific disease, such as gapes. There is another way in which parasites work injuriously—namely, by carrying specific disease germs from animal to animal, bird to bird. This is the case with that fatal disease of fowls, in South America, and elsewhere, known as fowl fever or spirillosis, a parasitic tick being the carrier. Other parasites, by causing irritation, make their host unwilling to take nourishment, and in the case of birds, to forsake their eggs. It is in the latter way that bird lice are so harmful to poultry.

Amongst the parasites of the fowl we find, as in man and other animals, that we can divide them into external parasites and internal parasites. The former are exemplified by lice and fleas, the latter by the gape worm and the white worms of the intestines.

Bird lice are true insects and have a mouth formed for biting or chewing their food, whilst human and most mammalian lice have a piercing mouth for sucking blood. The bird lice which are called *Mallophaga* subsist upon the productions of the skin, and they also devour the barbs of the feathers, especially those of the saddle hackle, and so cause unsightliness, for the feathers become jagged and notched. (Fig. 1).

Nearly every bird has its own particular species of lice—for instance, those of the duck, turkey, goose, and fowl are all quite distinct. As far as we know at present, an interchange of hosts is very unusual. Only once have I found a duck louse on a fowl, and never one of the fowl lice on ducks, even when they have been commingling together when badly infested with these parasites. The so-called *Menopons*, or wandering lice of the fowl may, however, occur on turkeys, pigeons, and even pheasants.

Apparently fowl lice breed all the year round, but with greater energy in spring and summer. The reproduction of these annoying insects is very rapid under favourable circumstances. The conditions most favourable to them are damp, dirty, dark, and badly-ventilated houses and the unhealthy condition of the birds. It must not be assumed, however, as is to



Fig. 3.

Goniodes Dissimilis (Nitzsch).

Fig. 4.

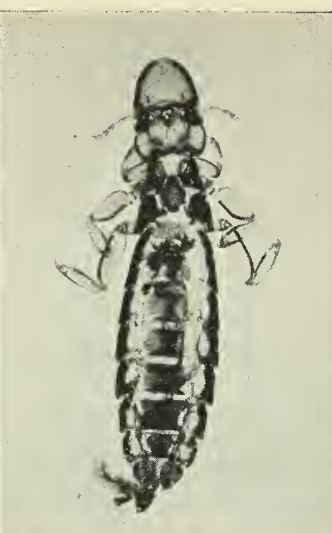
Goniocotes Bynsfordii (Theobald).

Fig. 5.

Lipeurus Variabilis (Nitzsch).

Fig. 6.

Menopon Pallidum (Nitzsch).

frequently done, that dirt breeds lice ; it merely acts as a medium for encouraging them. It must not be assumed that unhealthy birds only are attacked by lice ; perfectly sound ones may be, and then the lice cause unhealthiness.

Under favourable conditions, it has been estimated that the second generation from a single female louse may number twenty-five hundred individuals, and the third generation the enormous sum of one hundred and twenty-five thousand. This monstrous progeny may be accounted for in no less than eight or nine weeks. One can thus readily understand how poultry may suddenly become affected to such an extent that they do not thrive. It is not only fowls which are attacked by these loathsome insects. Where chicks hatch out under natural conditions they nearly always become infested, unless the nesting box and the mother have been thoroughly cleansed.

This infestation in chicks may come from either direct, the mother or from the surroundings. The former is the usual way, for most of the lice live permanently on their hosts. There are, however, the lice called *Menopons*, which frequently leave the birds, and these may be found in the nests ; they also invade the little chicks. We see this now and again happening even in foster-mothers which have been kept in a dirty state near poultry runs. The old birds may leave the lice behind them there, if they are allowed to enter, and so the chicks may receive them. Lice will not live many months without food derived fresh from the host. How long they may live we do not know ; on this subject we want further careful entomological evidence. The writer once kept some for nine weeks, with only old feathers to feed upon.

The eggs (Fig. 2) of these wingless insects are laid upon the feathers of the birds, especially amongst the down feathers. They are attached to them by numerous fine threads around their base. The shell of the egg is beautifully sculptured with hexagonal markings. The incubation varies from six to ten days according to the time of year and local conditions. Young lice are very like the adults, save that they are smaller and paler in colour ; sometimes

almost white. They are very unlike the young of the moth or bee, which hatch from the egg as a caterpillar or grub, and which pass through the chrysalis or pupal condition—a period of rest and change—before the adult butterfly or bee makes its appearance.

Young lice live on the host just as do the mature sexual creatures, and they feed in just the same way and cause the same intense irritation.

Growth from the young louse to the adult takes place gradually and is accompanied by a series of moults or castings of the skin.

Reproduction takes place mainly on the birds, but sometimes the crawling lice or *Menopons* may be found in copulæ in the nests, especially where straw or hay is used and the nesting boxes are foul with excrement.

Lice are spread from fowl to fowl and run to run in various ways. A common channel of distribution amongst birds is *via* the nest, for many lice leave the host at night and may be found wandering about, regaining other fowls when laying during the day. Very many are also distributed during copulation. The introduction of an infested male bird is often the means of contaminating the whole flock. Another way may possibly be by means of certain two-winged flies, which are sometimes found on fowls in this country. Dr. Sharp has observed these diptera carrying parasitic lice.*

The lice found on fowls may be grouped into three divisions, namely (i) those which live fixed on the skin of the head and neck, especially of young birds, and which also occur under the wings and around the rump ; (ii) those which wander over the whole bird, more or less active creatures which one finds running over one's hands and arms whilst handling or plucking poultry ; and thirdly (iii), those which live between the barbs of the feathers on the wings and tail.

The first named are known under the technical names of *Goniodes* and *Goniocotes* (Figs. 3 and 4). In these the bodies are wider than the heads, and

*Proceedings Entomological Society of London, p. xxx., 1890.

they are sluggish in habits. The second group, the active, crawling, wandering lice, have the body large and broad, but very little wider than the head, and they are flattened in general form. The last group, known as *Lipeurus* (Fig. 5), have very long and narrow bodies; two kinds of these long lice occur on fowls. The wandering lice are called *Menopons* (Fig. 6). One species, known as *Menopon pallidum*, is also found on turkeys, pigeons, and pheasants. The *Goniocotes Eynsfordii* (Theobald) (Fig. 4) mainly attacks the head and neck of chicks, and often causes serious loss. They are found buried amongst the down or feathers, with their heads pointed in tick-like manner to the skin and their bodies projecting upwards and somewhat swollen.*

Whenever one finds large numbers of lice upon poultry one may be sure that they have been kept in unsanitary surroundings, or else the birds have become debilitated and weakened from some cause



Fig. 1.

Feather Showing Damage by Lice (Twice Natural Size).

or other; and this state is usually followed by lice, which seem to breed more rapidly as the host becomes unhealthy. Damp, dark, dirty, and badly-ventilated poultry houses and hen-roosts are places most prone to harbour these pests.

Prevention lies in seeing that the above-mentioned unsanitary conditions are done away with. Roosting places should every now and then be thoroughly cleansed, and there is nothing better than a good spraying with fresh hot limewash for this purpose. Machines for spraying limewash can now be obtained, so that a fine spray can be sent over all parts even of a large building. Walls, roof, nests, and perches all want treating. The limewash may be further improved by adding half a pint of paraffin to every gallon of wash, churning well together with a syringe first. A good dressing must be given, so that it runs into all cracks and crevices. Of course, nesting-

boxes and setting places should be paid special attention to.

There is nothing better to keep down lice than "*dust baths*." Every pen of fowls should have easy access to a dusting-box. This should be kept in the dry, and road-dust will form the best material to use, but it may be much improved by the addition of some pyrethrum powder mixed with it. Fowls do not seem to mind this. Pyrethrum is also an excellent substance for dusting over the nests, as it keeps away fleas as well as lice.

For *treatment* we should first attack the lice on old birds. These may have pyrethrum dusted over them. When doing this it is best to hold the bird up by the legs with head downwards; the powder may then be shaken, and will be found to fall well between the expanded feathers to the skin. Small "puffs" may now be had, which send out this or any other powder in a fine cloud of dust. In very bad cases I have seen hens dipped bodily into a mixture of quassia and water or a decoction of boiled elder leaves and blossoms with marked success.

Chicks should be freed from lice at once, especially of head and neck lice. Nothing is better for this purpose than ordinary lard rubbed well over the invaded area. One part of sulphur to every ten of



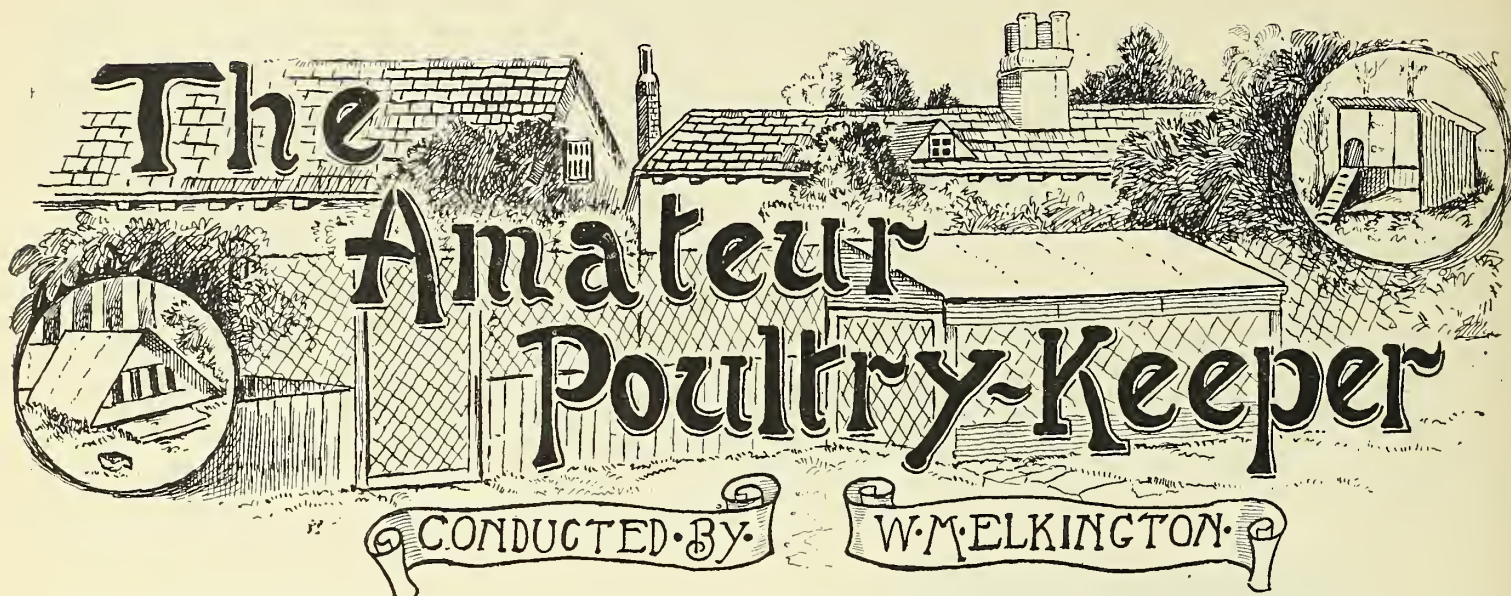
Fig. 2.

Egg of Louse attached to Feather (Edendon).

lard may be used for anointing old birds, but sulphur is best avoided in the case of chicks. White precipitate ointment is perhaps the most fatal substance to lice, but its use is attended with some danger when applied to young birds.

Cleanliness, plenty of light and air, and as much freedom as possible, the use of dust baths, and the occasional treatment of chicks and setting hens, will soon make the inconvenience and loss caused by these parasites a thing of the past.

* Descriptions of all these Lice will be found in my "*Parasitic Diseases of Poultry*," Gurney and Jackson. 1896. (2s. 6d.)



Amateurs and Early Hatching.

The new regulations adopted by the Council of the Poultry Club, with regard to the ringing of chickens and the age of young birds for show purposes, will by no means lighten the already heavy handicap of the amateur exhibitor. These regulations, when they come into force, will legalise the hatching of show chickens at any time so long as, in the opinion of the judges, the specimens do not appear to be too old to pass for young birds. At any rate, although there is obviously much room for misunderstandings, there appears to be no reason why chickens for June shows should not be hatched in October and November, and it is pretty certain that some of the large breeders and exhibitors will hatch during those months for this particular purpose. With their extensive stock and conveniences the matter will present little difficulty to them, but how many amateurs will be able to do likewise? This appears to be one of the weak points of the scheme—that the amateur and the small breeder will be unable to participate in such early hatching, and as competition in early chicken classes will thus be restricted to a select few, the poultry fancy in general will not be benefited greatly by the removal of the limit date for hatching. Indeed, it would be far better for the amateur if the old recognised rule regarding the illegality of hatching before January 1 could be made more stringent.

The Incubator Question.

With the breeding season looming in the by no means distant future there arises once more the frequent question whether amateurs and small poultry keepers are justified in using incubators instead of broody hens. Obviously, the best advice that one can give is to adopt whichever system is most convenient and likely to give most satisfactory results; but to the majority such a reply is altogether too vague. Here is an example. A person who keeps about ten stock birds and breeds about sixty chickens in a year wants to know if it will pay him to buy an incubator. He does not need to hatch very early, and he can get as

many broody hens as he requires. Shall he forsake the natural method and employ an incubator? I should say certainly not. There is no need for an incubator in such a case. This person can hatch his chickens at considerably less cost, and with a smaller percentage of failures by the natural method, which he understands. Artificial incubation is not the sure and certain cut-and-dried business many people believe it to be, and an incubator is not a mere mechanical contrivance into which you put eggs at one end and take out chickens at the other. Both the science of incubation and the individual machine need to be understood before one can attain any measure of success, and I fail to see how it can pay a small poultry keeper to throw up the old method that has served him so well, to start as a learner with the new.

Supervision.

I am afraid that a great many failures with poultry-keeping on a small scale must be attributed to lack of supervision. A little time ago a gentleman wrote to me for advice regarding his fowls, which during twelve months had averaged less than 40 eggs per bird. There was evidently something radically wrong, and it did not take long to discover it, for as soon as I entered the run I discovered several handfuls of corn—poultry mixture as the tradesmen call it—lying upon the ground, whilst the hens stood idle in a corner. The explanation was that the owner, being at business during the day, was compelled to leave the feeding to the maids. Sometimes the cook fed the fowls and sometimes the housemaid. Sometimes they both gave them a feed, and at other times the fowls went without. This kind of thing goes on in many otherwise well-regulated families, and failure follows as a matter of course. Unless there is supervision to prevent overfeeding and neglect of ordinary precautions it is not worth anyone's while to keep poultry.

Ornamental Poultry.

A great many people in the country are taking up poultry in the nature of a hobby, with a special regard for their ornamental value, although utility

properties are not, of course, entirely overlooked. Travelling through the Midlands some little time ago, I saw a very pretty home standing in a small park, in which roamed three flocks of White Wyandottes, each flock having its ornamental white painted house. Such a delightful hobby is bound to become popular, and though, to my mind, nothing looks more beautiful than a flock of white fowls, there are many attractive colour varieties to choose from. Black fowls are largely favoured, and of this colour I would recommend Black Leghorns with their large red combs, white lobes and yellow legs. Silver Wyandottes, either laced or pencilled, show up very handsomely when running on grass, and so do the bright-coloured Partridge Wyandottes, Brown Leghorns, and Black-Red Old English Game. Buff Orpingtons invariably look well at a distance, but unfortunately utility stock on an open range will not bear very close examination. Taking beauty and utility together into consideration, I know of nothing more suitable for country-house amateurs than White Wyandottes. Their appearance is delightful, their manners charming, and their usefulness unexcelled.

The Importance of Strain.

To all those commencing poultry-keeping I cannot too strongly emphasise the necessity of securing stock from a good strain, whether exhibition or utility. People are often advised to keep a certain breed, and many jump to the conclusion that they will be perfectly safe so long as they keep representatives of that breed, no matter where they come from or what they cost. Nowadays, however, there is a very great difference between certain strains of the same breed, or rather between strains that deserve the name and those that do not. The efforts of specialist breeders in raising the standard of productiveness among many pure breeds of poultry should be more extensively recognised, and beginners will make a safe start by securing stock from some of these strains. The initial expense will be greater, but there can be no doubt that in a year or two's time the well-bred productive strains pay for their extra cost many times over.

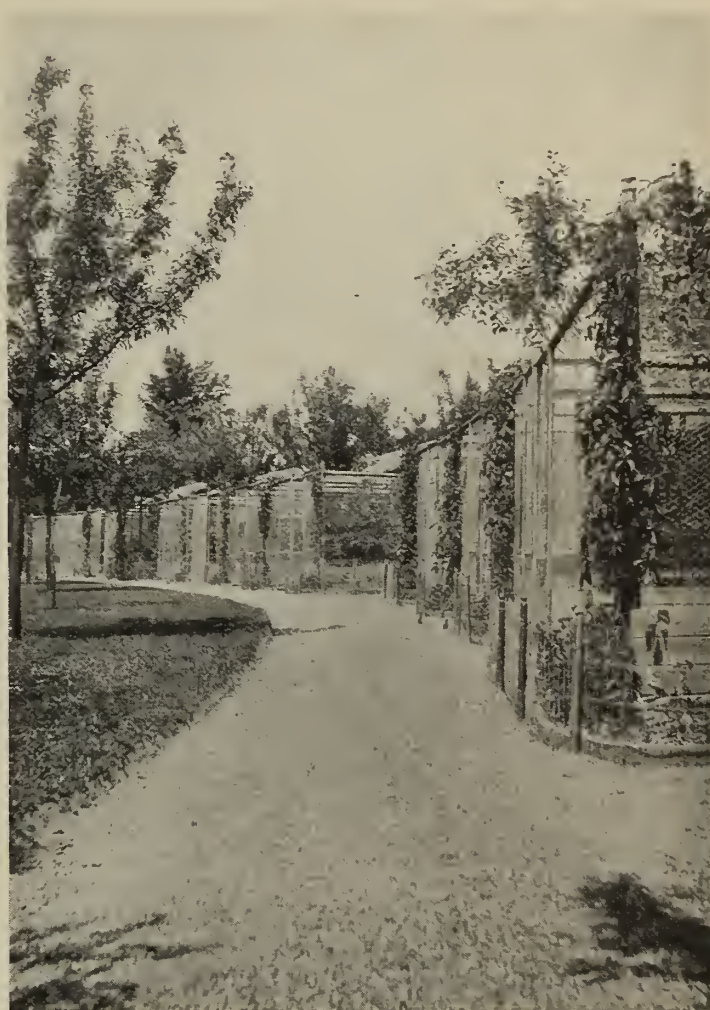
FOWLS AND THE GARDEN.

THE average gardener probably fails to appreciate the connection between fowls and the garden, and there are excellent reasons why horticultural enthusiasts regard the hen creation as natural enemies. But because a scratching hen can probably do as much damage on a flower border as anything on earth, short of a tornado, that is no reason why she should not be regarded as a valuable ally in other directions. Indeed, I venture to predict that in the near future poultry-keeping and gardening will be much closer connected, for the plan which I am about to describe, though especially suitable for amateurs, can be adopted upon a much larger scale.

It is about seven years since I first saw the plan in operation, and it was on some allotment gardens close to a manufacturing village in the Midlands. The

occupier was primarily a horticulturist and a very successful grower of exhibition vegetables, but latterly he had become a poultry keeper also, and he assured me that the plan he had adopted of dividing his land into plots, and running poultry upon one whilst the others were under crop, was good for the fowls, good for the ground, and good for his pocket.

To the best of my recollection that man had three plots of ground, each surrounded by wire netting and



POULTRY RUNS IN A BELGIAN GARDEN.

Photo by L. Vander Snickt, of "Chasse et Pêche."

of equal extent. One plot, containing the fowls, looked as though it had only recently been turned over, and I understood that a crop of early potatoes and peas had only just been lifted from it. The plot that had recently been vacated by the fowls was being trenched for celery or planted with broccoli and winter greens, whilst the remaining plot was bearing a fine crop of peas, beans, onions, carrots, &c. As each plot in turn became vacant for the fowls the roosting house was carried from one to another, the lately vacated run being dug over to a good depth.

Since that time I have seen the plan described in a more elaborate manner. In this case the ground was divided into four enclosures, and a permanent house was placed in the centre with a trapdoor leading into each plot, so that the fowls could be turned into any one of them by the simple expedient of opening a particular trapdoor. In this case also a suitable list

of crops for succession was given, and I do not doubt that the four-plot scheme would work out better than the three, although the ground would not get so much manuring. Then, again, the permanent house to serve each run is an improvement on the movable building, that has to be carried from place to place, though, owing to the formation of the plots, it might not be applicable in all cases. However, the general principle remains the same, and that is to shift the fowls on to what is, to all intents and purposes, fresh ground pretty frequently and at the same time enrich the soil for gardening purposes.

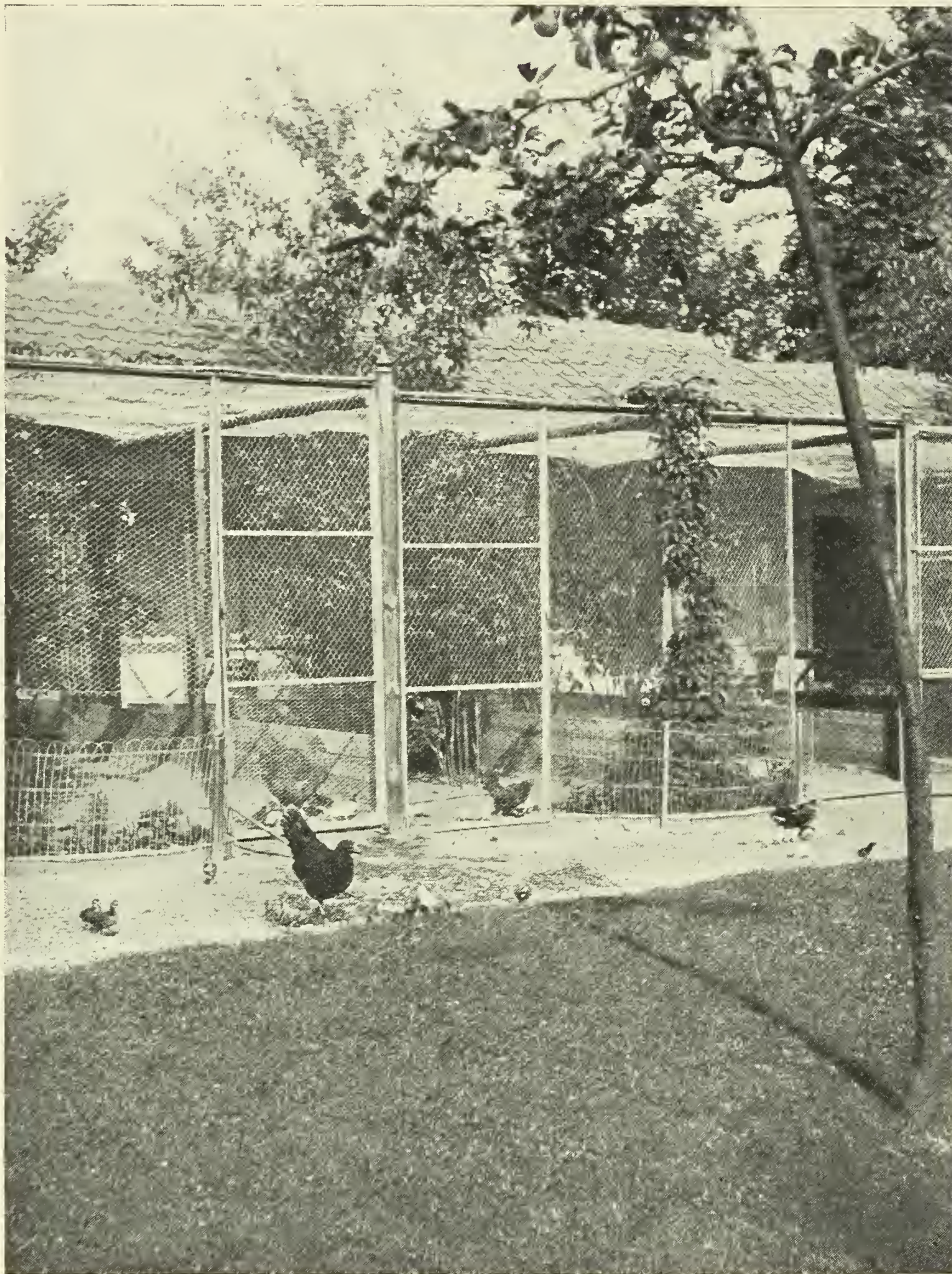
There are several reasons why this plan is so very suitable for the small poultry keeper, and one is that it overcomes the great objection to keeping fowls for any length of time on a small plot of ground. Now, the small grass run is a delusion and a snare. One cannot preserve grass in good order in a small run where a number of fowls are constantly kept, and it is a great mistake to suppose that the soured stuff which does grow is beneficial to birds that are hardy enough to eat it. For many months in the year a small grass run is little better than a pestilential mud bank, and I never lose an opportunity of recommending that such places be dug up, since, by doing so, we bury the offensive matter and provide a new surface. But by going further and combining gardening with our poultry-keeping operations, we profit by the richness of the ground, due to the presence of the fowls, whilst the heavy cropping cleanses and freshens the ground as no other process can, so that three or four times a year, as the case may be, we change our fowls on to a perfectly fresh piece of ground, with its wealth of insect and animal life.

I have heard people object that it must be bad for fowls to run about on bare soil, especially in wet weather, but I venture to assert that such a surface is infinitely preferable to a filthy apology for a grass run. It depends entirely upon the nature of the soil what the conditions are in wet weather, but, thanks to the domestic hen's talent for scratching, it must be very heavy stuff if she cannot turn it over

in the search for dainties, no matter what the weather may be. In any case, this need not be considered for one moment as an objection. Provided the birds are well supplied with green food (it is better to hang it up on the wire netting instead of throwing it upon the ground) they will be far better off in a cultivated small run than in one with a turfed surface.

There can be no doubt that this plan of keeping fowls on arable land offers special advantages to small holders, and what is now being done by amateurs will at some future time be carried out on a much larger scale. To all who cultivate gardens and who desire to keep a few fowls I can recommend it in preference to fitting up a permanent poultry run.

The only additional cost is for the fencing. It need not be feared that valuable garden ground has to be given up for poultry when it might be utilised to better advantage. The practical gardener sows and plants for succession, and as he lifts one crop he prepares the ground for another. How could he prepare the ground better than by running fowls upon it and distributing a layer of rich manure? Moreover, the fowls themselves constitute a by no means unsatisfactory crop, provided the operator knows just enough about such things to obtain some pullets of prolific strains and manages them properly.



IN A BELGIAN GARDEN.

Photo by L. Vander Snickt, of "Chasse et Pêche."

TAINTED SOIL.

By F. W. PARTON (the University, Leeds).

A WELL-KNOWN authority on the diseases of poultry, and one who for many years conducted *post-mortems* for a contemporary, recently declared that quite 50 per cent. of the complaints from which fowls suffer were traceable to impure or tainted ground. To some this may appear somewhat of an exaggeration, but there is no doubt at all but that "sick-soil" is the basis of much trouble. Liver disease, gapes, and a whole host of other complaints are directly caused by impure soil.

When fowls are confined continually to one plot of ground the danger of contaminating the soil is largely overcome by something being grown in the run. When the run is laid down in grass it is absolutely necessary that it should be regularly and frequently mown, otherwise the rain does not carry the manure into the soil, but lets it remain in a poisonous state among the long coarse grass. Of all methods that have been adopted by the poultry keeper whose space is restricted, there is none so sound in practice as the division of the run. The advice to reduce the number of fowls is sound and easily given, but it is rarely adopted, as the temptation to keep a larger number than the amount of ground will safely carry is too great for the majority of small poultry keepers to resist. A division of the space, therefore, is strongly recommended, each section being used alternately. This goes far to overcome the danger of overcrowding.

It is not only fowls in confined runs, however, that suffer from tainted soil, which often occurs where it is least expected. I remember some time ago visiting a farmer in the Midlands, who had lost hundreds of fowls during the few months preceding my visit. His method of feeding was satisfactory, the water supply was excellent, the housing was all that could be desired, yet his losses were very serious indeed. When he was informed that the land was impure, he scouted the mere idea, declaring that his fowls had acres and acres of land over which they could roam the whole day long. This was quite true, but from my observations I could tell at a glance that the birds rarely felt inclined to wander about, there being no incentive to do so as they were always fed on the same spot. The result was immediately apparent to the practised eye; the birds moped about with drooping wings, lustreless, ruffled feathers, and pale faces, all pointing to the one thing, namely, that they were living, eating, and spending their time amid an unsavoury mass, the accumulation from flocks of fowls that had been reared on the same place. There is only one way of dealing with this extremely unsatisfactory state of affairs. Give the fowls strong doses of Epsom salts and remove them to another part of the farm; if the disease has not got too strong a hold, in a short time one will see a great change in their general appearance. The fresh grass and herbs for which nature craves, and their instinct suggests, will prove an excellent remedy. The ground from which they have been removed, which is probably entirely devoid of grass, should have a strong dressing of lime and

be allowed to lie fallow for some time before it is worked.

It is often asked by those whose poultry runs are limited in area what number of fowls may be kept in a run of a given size without incurring the risk of disease from tainted soil. While this is a natural and practical question to ask, it is most difficult of elucidation. As a matter of fact, no hard and fast rule can be laid down without regard being had to the existing circumstances, as what might be good advice under one set of conditions might be very misleading under another. For instance, were the runs in grass, ten times more land would be required than if the runs were in gravel or tightly-rolled cinders, as the latter can be frequently renewed before any impurity has penetrated below the surface. Further, the breed to be kept must enter into the calculations, as active non-sitting breeds, such as Leghorns and Anconas, require but half the amount of space per bird that is needed to do justice to the less energetic Brahma or Cochin. It will thus be seen how futile must be the attempt to reply to this very important question. As a guide, however, to the man with limited space at his command, it may be stated that for the small laying varieties, if they are to be permanently settled, the space per bird should not be less than three square yards of gravel run, and, say, thirty square yards should the plot be of grass. If the breed or breeds kept be of the larger type, more than ten should not be maintained on a piece of ground capable of safely carrying twenty non-sitters. The whole question as to whether the poultry keeper is over-stocking his land can only be satisfactorily determined by his own observations as to the state of health of his fowls and the condition of his soil.

Perhaps more important than anything else is to prevent young chickens being reared on the ground where adult fowls have existed, for gapes and many other ailments of chickenhood are absolutely certain to follow inattention to this matter; it may be noticed, where several hatches of chickens are brought out late in the season and put on ground previously occupied by earlier lots, how slowly they grow and how puny they look as compared with the growth and look of their elders. This is simply due to the fact that the sweetness is gone from the soil, and hence the necessity of change and clear runs.

SPECIAL FEATURES.

Particular attention is called to the following:

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Prize Competitions	ii & xv.
Scale of Advertising Charges	xiv.

Readers are requested to mention THE ILLUSTRATED POULTRY RECORD when replying to advertisements.



The Canaries.

Poultry-breeding is growing rapidly in the Canary Islands, where the climate and conditions are very favourable indeed. In addition to the large number of visitors who go to the islands every year, there is an enormous demand to meet the requirements of the steamers calling at Teneriffe, many of which, coming to Europe, have not touched land for two or three weeks. Eggs sell at two francs per dozen and chickens *au naturel* at five francs each. White Wyandottes, Buff Orpingtons, and Aylesbury ducks are found to answer well.

Poultry-keeping in Roumania.

In many parts of Roumania geese are bred very largely, more especially in Moldavia; chiefly for the German markets, as in Southern Russia and Eastern Prussia. Of late the Government has paid considerable attention to the development of poultry-keeping, with the result that eggs are now being received in England from that country. These are not very good in quality, but as steps are being taken for regular lines of steamers between Roumanian ports and London, provided with cold storage, it is anticipated that the trade will grow considerably. The journey will not take longer than a fortnight, and will thus be quicker than is the case with Russian supplies.

Japanese Poultry-keeping.

A notable recent event is the exportation of poultry and poultry appliances to Japan, in which country there is an awakening interest in practical poultry-keeping. As that country develops on the commercial and manufacturing sides the question of food supply will become, as in all other countries, of greater importance, under which conditions poultry will be kept much more largely. Hitherto Japanese breeders have devoted themselves to the production of strange and beautiful races, but the time has come when that will be no longer the case. Since the war with Russia the Government have been paying a con-

siderable amount of attention to this question, and have sent representatives to Britain and America to study the methods adopted. The latest party of these is at present in Europe, having come by way of America, and they have made large purchases of stock for the improvement of the poultry in Japan. These are entirely of utilitarian breeds, and it will be extremely interesting to see which prove most successful in the Land of the Sun, though we anticipate that almost any breed will be easily acclimatised in a country so diversified in its natural conditions and surrounded by the sea.

Progress in Servia.

At the Christmas season fair quantities of turkeys are placed on the London market from Servia, though that is not generally known. That little country is very favourably situated for poultry-keeping, both by reason of its economic and climatic conditions. It is interesting to note that the Government has made arrangements with M. Nicholas Jovanovitch, formerly Servian Trade Commissioner in London, to translate Mr. Edward Brown's "Report on the Poultry Industry in Denmark and Sweden" for publication in Servia, as the marketing question is the supreme difficulty.

Coucou de Rennes Fowl.

The Count de Montaigu calls attention in *La Vie à la Campagne* to the good qualities of the Coucou de Rennes fowl, and thus describes its economic qualities: "The young chickens are very hardy and precocious when reared at liberty, putting on flesh quickly; they make excellent *poulets de grains* at the age of three and a quarter months, when they weigh $4\frac{1}{2}$ lb., which can be increased to nearly 6 lb. Pullets commence to lay at the age of six months, but they do not attain their full development until the second year. This breed possesses the quality of easy acclimation." The flesh is white, and the shells of the eggs, which are very large, are also white.

FRENCH NOTES.

By OUR SPECIAL CORRESPONDENT.

Egg Production.

The production of eggs does not advance with demand, which explains the reduction of supplies to Britain. *Le Progrès Agricole* says that consumption grows rapidly, and the figures of internal trade for the last three years are as follows :

	Import.		Export.
1905 ..	24,983,000 fcs.	..	14,668,000 fcs.
1906 ..	28,162,000 fcs.	..	14,721,008 fcs.
1907 ..	37,037,000 fcs.	..	9,730,000 fcs.

The export has decreased during the period from 1896 to 1907 from 32 millions of francs to 9,730,000 francs, that is to say, by 22 millions of francs.

Morocco.

The *Bulletin de renseignement agricoles* says that a well-kept poultry yard is quite unknown among the Falisia. The fowls wander around the cottages and during the night shelter in the hedges. They are fed on sorgho, but find a lot of food in the fields. The hens are said to be very prolific. Prices of chickens range from 10d. to 1s. 3d. each, and for hens 1s. 8d. to 2s. 6d. each. In 1905 about 25,000 francs' worth of fowls were exported to Gibraltar. As regards eggs, these were exported to Spain, England, and France in 1905 of the value of 1,998,125 francs (£79,925). This industry is capable of great extension, and should be very profitable. The climate is equally good for fowls, ducks, geese and turkeys, all of which with proper care and feeding would give satisfactory results. Tangier and also Gibraltar and Spain offer an excellent market, and England is always ready to accept further supplies of eggs.

L. JACOT.

POULTRY-KEEPING IN RUSSIA.

FROM OUR RUSSIAN CORRESPONDENT.

RUSSIA, as a result of its physical conditions, is essentially an agricultural country. Amongst its people farming, as known in Western Europe, is not general. In this respect poultry-keeping is the same as other branches. Russian fowls for many years, and even now, in many parts of the country, live and produce without the help of man. It is comparatively recently that private people, societies, and the Government began to consider this question. Statistics of exports tell of great quantities of eggs and chickens sent to other countries, but it must be acknowledged that the quality of the products is not of a high order. The Russian fowl is a good one, hardy and enduring—a very important feature in a severe climate. Its flesh is good, but left to itself it decreases in size, lays small eggs, and carries only a small amount of flesh.

Records tell that in ancient times the Russians knew how to fatten fowls, and made excellent dishes from them, but this fattening was most primitive and anything but cheap. As foreign breeds of poultry penetrated into Russia, the culture of these became a matter of pleasure more than of profit. The huge

Cochin Chinas and Brahmas were regarded as a necessary ornament on the estates of landed proprietors, and it is only within recent years that attention has been paid to the improvement of Russian poultry.

Meanwhile, the original Russian fowls were crossed with some of the imported stock, and thus we meet with birds of all colours, sorts, and sizes under local names. About twenty years ago, however, attention began to be paid to this question, and more suitable breeds were imported. As is usually the case, it was from the progressive and intelligent classes that the improvement came about. Societies for poultry culture were started, first amateur and then professional. The original society was the Russian Society of Rural Poultry Culture, which has its central office in Moscow and forty branches in nearly all parts of Russia. This body and its local branches endeavour by all means in their power to improve Russian fowls and to spread those breeds which have shown their suitability. To this end exhibitions are arranged, in the villages as well as the towns, at which the peasant exhibitors are encouraged. They are supplied with poultry or eggs for the improvement of their stock, and at many of these exhibitions lectures are given dealing with various parts of the subject. Meetings are held regularly in Moscow, at which general questions of poultry culture are discussed, and the Society issues a magazine which serves as a medium for exchange of ideas and experiences among the members.

Lately the question of places of instruction in poultry-keeping has been raised. Up to recently a little has been done in certain schools, but on a limited scale. Now there are courses in this subject, and a scheme is being worked out for various types of special schools, and it is intended to open a place where advanced teaching can be given for the purpose of training teachers. Further, an institute has been organised for preparing working men as poultry keepers by offering practical courses of instruction. These men, when they have served a given period, will be examined by the Agricultural Board.

The question of fattening poultry artificially as well as by hand has been taken up, and this system is being adopted to some extent. There are several places where fattened fowls are produced which can compete with some of the better qualities met with in Western Europe. The Government aids these enterprises, offers grants and prizes, subsidises exhibitions and courses of instruction, is sending students abroad and training teachers in the subject. During the last few years attention has been paid by some of the leading veterinary experts to fowl diseases, and this important question is being studied carefully.

These general outlines of what is being done in Russia will show that our Government is paying attention to the question. We stand first in regard to the quantity sent to the United Kingdom, but it is necessary that the quality should be improved. In further accounts I hope to give more details as to the different developments of poultry-keeping and the measures taken for its improvement, together with a description of the pure Russian breeds.

E. GUEDDA.



PHOTOS BY M. LOUIS VANDER SNICKT, OF "CHASSE ET PÊCHE."
(See page 117.)

THE RONQUIÈRES TURKEY.

By LOUIS VANDER SNICKT (of "Chasse et Pêche").

THE Dindon de Ronquières, or the Philosopher's Turkey, is a very old Belgian breed. It differs from other members of the same species in that it is as white-legged as a Dorking and has not the metallic sheen in plumage of the wild turkey. There are other minor differences which suggest a cross between the Mexican wild turkey and the ocellated green turkey of Honduras. The flesh is very white and differs in flavour from that of the ordinary bronze races. From ancient times, during the month of October, large flocks of these birds have been driven through the streets of Flemish towns, the inhabitants of which buy one, two, six, or even a dozen of the young turkeys, which are eaten as they come from the fields, or are fattened and crammed with walnuts. Many of them are offered as prizes at the archery contests or pigeon races.

Ronquières is a very pleasant and picturesque village, where the inhabitants of Brussels establish themselves with their families during the summer months, indulging largely in the sport of rod-fishing. Every Sunday many people go there to eat the fish and turkeys. In the year 1569 the Burgomaster of Ronquières was beheaded in Brussels, and his head fixed on a pike and planted in the public "place" of his village. His secretary, convicted of philosophy, was hanged also, after his hands and feet had been cut off. Since that time, the inhabitants of Ronquières and their turkeys have been called philosophers.

At one period every farmer used to have one or more pens of turkeys, each consisting of a grey-brown gobbler mated with six hens of different plumage; from each pen he obtained about a hundred youngsters, and with the sale of these he paid the rent of his farm. Owing to the extension of beetroot culture for sugar making, the space available has been greatly restricted and the industry has lost much of its importance. A Horticultural and Agricultural Society has, however, been established in Ronquières, with the object of renewing the old prosperity of this ancient village, by establishing flower, vegetable, fish, and turkey culture. For five or six years the Dindon de Ronquières has had separate classes in the Belgian shows, and an annual fair has been instituted. I send some photographs of the second one, and there is every evidence that these events will increase in importance.

This race is divided into three main varieties, namely, the grey-brown, the buff (which is by far the most beautiful), and the white and black. In the last named we have pure white, or white with a little black spot or a black lacing on each feather, and also white finely ticked with black, until, in some specimens almost entire black is seen. So long as the legs are white that does not matter, but as soon as the plumage becomes totally black, the legs are black also, and then the bird can no longer be called a Ronquières.

FRENCH METHOD OF FATTENING.

IT is a great mistake to pick out all the scraggy fowls for the cramming process. In order to fatten well the bird should, to start with, be in perfect health; the comb should be red, the eyes bright, and the condition of the body fairly plump. In fact, it should be in such condition as to be already fit for table before the fatiguing process of cramming is commenced, to get the full profit of the treatment.

Give a mixture of three quarters of finely-sifted barley meal and one quarter of maize meal, thinned down to the consistence of cream or batter, with very fresh skim milk. We say skim milk and not new milk. For this reason: Pure milk, retaining its cream and fatty matter, is not so suitable for fattening as skim milk, as it is not the butter or fat contained in the milk which produces fattening, but the phosphates and sugar, of which there is a fairly large proportion. The lessening of expense by using skim milk, when obtainable, is also a great consideration.

Two meals per diem of the mixture are sufficient at first, increasing the quantity a very little at each meal. The crop should be only half filled at first and the quantity gradually increased, so that at the end of the cramming process three times the quantity commenced with is given. Old birds and those of large build can stand a larger quantity of food than young birds, and discretion must be used in this respect. When it is possible to give three meals a day, the fattening process is more rapid and complete. But in this case the attendant must not shirk early rising, so that a sufficient interval will ensue between the first and last meals of the day. Unless the first meal can be given very early in the morning, it is better to rest satisfied with giving two full meals at regular intervals than to give three meals near together with two short intervals between them, as in the latter case the digestion of the bird will suffer.

Whichever plan is chosen, it is always necessary to examine the crop before the administration of each meal. If the crop is still fairly full, a meal must be skipped and no more food given till it is completely empty.

The omission of one or two meals, done judiciously, will put all right again and, the food being well assimilated, the fattening process will proceed satisfactorily. Perhaps it is unnecessary to state, in spite of popular ideas prevailing among ignorant people to the contrary, that the strictest cleanliness should be observed. Darkness in the fattening shed is quite unnecessary, besides being objectionable on account of hiding the existence of heaps of manure and portions of food dropped about. The shed should be moderately light, but a very bright light should be avoided, and also placing the birds where they can see others at liberty.

One of the essential conditions connected with the cramming process is the temperature in which the fowls are kept. No animal, of whatever kind, will fatten if suffering from cold or from excessive heat. The best temperature to keep up in the fattening shed is as near as possible to sixty degrees, and it should never rise above sixty-five or sink below fifty.—*L'Aviculteur*.



Day-old Chick Trade.

From the *Brisbane Courier* (Queensland) it would appear that the day-old chick business is moving onwards in the Australian Colonies, and it is found equally satisfactory as in the home country, in spite of the greater distances which have to be travelled. The fact is, this branch of poultry-keeping is only in the initial stages, for it is reasonable to anticipate that the time will come in nearly all countries when farmers will, as a matter of course, renew their stock in this manner. The Colonies have been slow to take it up, but with the great development of the poultry industry it is bound to increase rapidly.

Table Poultry in Canada.

Professor W. R. Graham, of the Ontario Agricultural College, says: "We should study the demands of the market to which we cater, the market which is to consume our product. If the market prefers white skinned chickens we should make white skinned chickens; if it wants yellow skinned chickens we should grow yellow skinned chickens. When we began to develop market poultry growing in Canada we had an eye upon the English market; the expectation was that the chickens would be exported to England, hence we bred and fed for white skin and flesh, as the English market looks for white skin and flesh in a chicken. In the first year or two there was much business done in this direction, but the home cities, such as Toronto, Montreal, &c., had discovered that these especially good chickens which were being sent to England were very good eating, and now the home demand consumes practically the entire product. In other words, making a better article has so increased home consumption that there is sufficient local demand for all the product. A few years ago nine cents a pound was considered the ruling price for a chicken, but now the people had realised the better quality and were willing to pay fifteen cents a pound for it."

A Novel Scheme.

The Pretoria (Transvaal) Poultry Club has adopted a novel scheme for the improvement of poultry kept by its members, and to enable them to obtain first-class stock. Periodic drawings will take place, the

tickets for which are 2s. 6d. each, and a member can take as many tickets as he likes. For every 200 tickets there will be one chance in the drawing, the total amount realised (£25), less 15 per cent., being used for the purchase of birds to that sum. The winner will be required to sign the following declarations: (1) that he will not dispose of the birds received through this fund within two years except with the consent of the committee, and (2) that members who took tickets in the drawing shall have priority over all other persons for sittings of eggs at the price of 2s. per sitting. The winner to be allowed to retain for his own use in each year not more than ten dozen eggs.

The Transvaal Poultry Club.

A very interesting question has recently arisen, which, happily, has been amicably settled, between the South African Poultry Association and the Transvaal Poultry Club, illustrating the cleavage between fancy and practical ideals, arising from a proposal by the former body to make compulsory the ringing of birds exhibited at the various South African shows. The last-named society supported ringing if optional. When the regulation was proposed to make ringing compulsory the Transvaal Poultry Club refused to be bound by what they regarded as a wrong step, and withdrew from the Association. Their reasons are set forth as follows:

The present committee, realising that active interest in poultry matters was confined to the show season, resolved on an effort to maintain interest throughout the year. With this object in view lectures and social gatherings were organised and suburban committees formed for the purpose of establishing branches and arranging shows in the suburbs of the towns. The success which has attended these efforts has been phenomenal, and there has been a rapid increase in the membership and in the interest taken in poultry generally. Most of those who have recently become members are novices, or those interested from the point of view of the industry, and who have a desire, not so much to breed for show purposes as to be possessed of stock which will produce more eggs and better table birds. . . . Our club is not narrowed down to the consideration of the claims of the fancier as against the industry or vice versa.

POULTRY-KEEPING IN INDIA.

By W. J. KEYS.

THE surveyed area of India is 555,964,320 acres, of which 207,504,328 acres are cultivated, 104,562,642 acres cultivable waste, and 41,417,131 acres fallow land.

Scientific agriculture and breeding are being taught and experimented with at most of the agricultural colleges. It is found that training in India is often necessary on account of local conditions and native prejudices. An agricultural college has about 300 acres as a rule, and is equipped with laboratories, reading-rooms, museum, &c. From these colleges local agricultural associations are started to instruct the native how to improve, rear, and take care of his poultry by pedigree stock and the improved methods of Britain. It is often slow work; but by degrees the native is beginning to see that he can get better results and better prices by modern methods of breeding than he did when he left the life or death of a fowl to mere luck. The interest in breeding, by villagers and in towns, is developing into a fashionable pursuit in many localities.

The military authorities have grass farms with dairy and poultry establishments in several parts of India, notably at Lucknow and Allahabad.

Agricultural exhibitions are frequently held in various parts of India. At one held at Mysore a few months ago there were 12,129 exhibits and 2,161 exhibitors. Money prizes are given at these exhibitions and shows.

Poultry-breeding and bee-keeping, from stock imported from England, are at the moment receiving the attention of the agricultural authorities, who will carry out experiments with the indigenous bird and insect. Every encouragement is given by the authorities, and all the latest appliances are purchased if suppliers in the United Kingdom will simply announce what they have to sell. THE ILLUSTRATED POULTRY RECORD, with its circulation throughout India, Burma, and Ceylon, is read by likely buyers, who pay in England through their agents or bankers.

From recent investigations in poultry-breeding in India the breeds generally unsuited for utility purposes were found to be Cochins, Brahmas, and all breeds with heavily feathered legs, because they do very badly in the plains during the rains and are poor layers; also Dorkings and Spanish, as they are too delicate. The most suitable breeds for general utility purposes are considered to be Plymouth Rocks, the best strain of these being the Barred Rock, Orpingtons of all strains, and Wyandottes of all strains, with possibly Silver or White Wyandottes as the best. As regards the crossing of imported poultry with native breeds, it is believed that the lighter laying breeds, specially the Minorcas and Leghorns, would be the most suitable imported breeds for a first cross, and at a later stage Plymouth Rocks, Orpingtons, and Wyandottes. The best of the native breeds for crossing purposes are Hyderabad or Mysore Games, Penang Langshans, and Chittagongs.

It has been found better to buy the birds from England, as eggs are invariably bad after the sea voyage. This applies to purchases from Australia as well.

Owing to the presence of jackals, free runs are not advisable. For flocks of 100 birds, shaded grass land is used. The positions of breeding pens, and of pens for young stock, are frequently changed, on account of chicken cholera and infectious disease. Absolute cleanliness and disinfection against disease and lice are necessary.

Many cheap Indian grains are suitable for feeding. The best general food for grown fowls in India is crushed wheat or crushed oats; but when these are difficult to obtain, or are too expensive, jowar and the smaller millets are used. Maize is unsuited in India for breeding stock, as its effects are seen in too much fat. Green food is important, and a regular supply of crushed green bone, broken shells, charcoal and grit, is essential. Condy's fluid is often added to drinking water to kill the impurities.

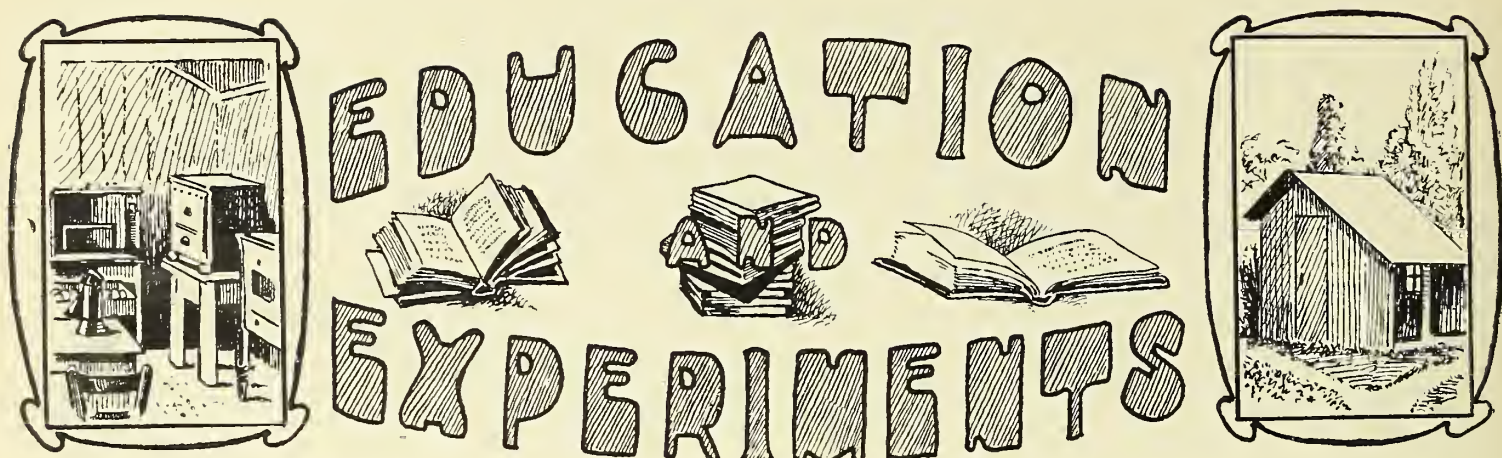
As regards ducks, the Aylesbury breed is the most suitable as a pure breed. The Indian Runner, though small, is a great layer. For crossing purposes, the Black and White Benares duck used to be a good variety, but it seems almost extinct. Gee e of fine breeds are found in the country and good types of Chinese are to be found in Calcutta. The Embden cross well. With regard to turkeys, the American Bronze turkey greatly improves local breeds by crossing. Those bred in Australia are suitable. The present Indian breed of guinea fowls is excellent and does not require much improvement.

Two questions receiving attention are those of larger table birds and larger eggs. Europeans, high-class Mohammedans, and Parsees are demanding better quality.

In India, poultry-breeding is looked at from the commercial point of view, and associations are teaching the public which breeds are the most useful and paying. The poultry question interests agricultural departments, farms, missions, planters, Eurasians, Parsees, and Mohammedans.

Most of the towns have a market, and the following retail prices were ruling recently in the Calcutta Municipal Market, viz.: Hen turkeys, Rs.2'8; cock turkeys, Rs.6; curry ducks, 8 annas; roasting ducks, 12 annas; roasting fowls, 10 annas; pullets, 8 annas; cutlet fowls, 5 annas; curry fowls, 4 annas; broth chickens, 3 annas; pigeons, 3 annas; capons, Rs.2, and special fowls, 14 annas. All these prices are cash. Fowl's eggs 8 annas per score, and duck's eggs 6 annas per score. These are market rates. Breeders were retailing Allahabad turkeys, per trio, of cock and two hens, for Rs.12; cross-bred English fowls, per trio, for Rs.10; Guinea fowls, per dozen, Rs.12; one cock and three hen turkeys, full grown, for Rs.10; twelve geese (seven months), Rs.16; one drake and five Aylesbury ducks (three months), Rs.9; one drake and two Pekin ducks (three months), Rs.4, &c.

[Note.—The rupee equals 1s. 4d. and the anna a penny.]



INCUBATION EXPERIMENTS.

IN the last issue we gave some particulars of the incubation experiments which have been carried out by the instructor at the College Poultry Farm, Theale, relative to the loss in weight in eggs during incubation and the effect of CO_2 in the egg drawer of a machine. It appears from the report we have just received of the work conducted by Mr. James Dryden, of the Oregon Agricultural College Experimental Station, during the spring of this year, that he has been carrying out a large number of tests along similar lines. The report contains a large amount of detail, all of which we regret we cannot publish, but we believe the following particulars will prove of help to those engaged in artificial incubation.

In the introduction Mr. Dryden says :

"Artificial incubation in recent years has assumed large proportions. Large numbers of incubators and brooders are purchased in every community, entailing in the aggregate a large investment of capital. It is admitted that there are great losses in the artificial incubation of eggs and brooding of chicks, and many explanations are given as to the cause. The complaint is that the chicks either fail to hatch, or, hatching, they fail to live. Why the embryo should live through the incubation period and die before hatching is a problem that bothers the incubator operator more, probably, than any other. It is a keen disappointment to the incubator user to find after the eggs apparently have progressed satisfactorily up to the time of hatching that twenty-five per cent. of them, more or less, have failed to hatch. This means a large loss to the poultryman, and if there were no other problem involved in incubation than that of the chicks dying in the shell it would warrant extended investigation.

"The testimony is very conflicting as to the efficiency of incubators. Hatches as high as 90 to 95 per cent. of 'fertile' eggs are frequently made, and as low as 25 per cent. or less. Some claim that the fault is in the stock that laid the eggs. This is doubtless true in many cases, for unless the parent stock be healthy and of good vigour the eggs they lay will not hatch well. Others claim that the man who

operates the incubator is usually to blame in failing to closely follow instructions, and this very often is true.

"But this is not the only problem ; a more serious problem is to hatch the chicks well. Some claim that it is easy to hatch the chicks but hard to raise them. Reports are frequently made where inside of four weeks after being hatched every chick has died. At certain seasons of the year probably fifty per cent. of the incubator chicks die. In winter and early spring the mortality is small compared with the late spring and summer. The cause of the mortality is usually ascribed to faulty methods of brooding or feeding. The fact that the chick may be hatched with impaired vitality has not been fully recognised, and the evidence of vitality should not be merely that the chick survives the brooding period, but that it comes to maturity with vitality equal to that of the parent stock and capable of transmitting the same vigour and health to the second generation.

"The importance of the problems of incubation has led this station to begin a series of investigations along the following lines :

"(a) The relative efficiency of natural and artificial incubation ;

"(b) Improvements in incubation and brooding.

"In planning the work the importance was recognised of determining accurately the relative merits of natural and artificial incubation and of discovering the fundamental differences in the two methods in order that the problem of improvement might be more intelligently attacked. The ultimate object of the work is to determine, if possible, how the losses in artificial methods may be prevented.

"The experiments were started in April, 1908, and this bulletin reports the results of investigations that have progressed far enough to warrant conclusions being safely drawn. The plan involved the running of one set of incubators strictly in accordance with directions of the makers and other sets of machines of the same make under different conditions of moisture, the idea being that possibly under the conditions of humidity of the atmosphere here some modifications of the directions would produce better results."

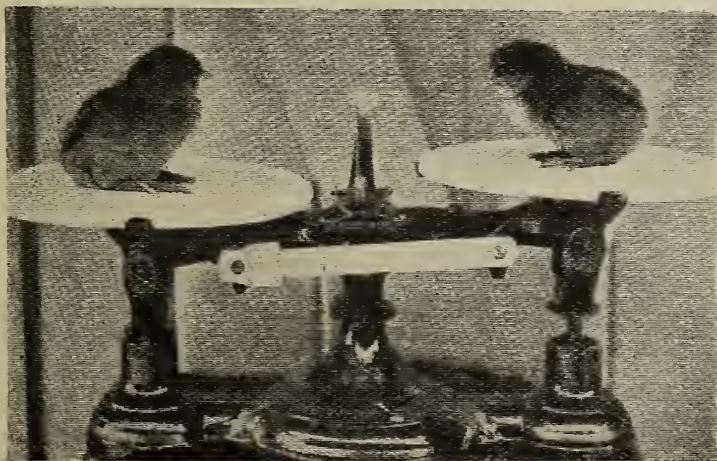
The results of comparative tests of hens and incubators are summarised in Table 1.

TABLE 1.—SUMMARY OF HEN AND INCUBATOR HATCHING.

Date Set.	INCUBATORS.						HENS.					
	Eggs Set.	Tested Out.	Number Fertile.	Hatched.	Dead in Shell.	% Fertile Eggs Hatched.	Eggs Set.	Tested Out.	Number Fertile.	Hatched.	Dead in Shell.	% Fertile Eggs Hatched.
1908.												
May 22	102	30	72	51	22	70.8	151	14	13	13	192	86.7
"	102	21	81	64	17	79.0	152	13	13	0	100	86.7
"	102	23	79	49	31	62.0	152	13	13	0	100	86.7
"	101	27	74	51	21	68.9						
"	101	37	64	45	19	70.3						
Totals & Av'rag's	508	138	370	260	110	70.3	455	40	39	1	97.5	86.7
1908.												
June 6...	36	8	28	23	5	82.2	30	6	24	24	0	100
"	36	14	22	16	6	72.7	13	4	5	8	1	88.8
"							11	1	10	10	0	100
"							13	3	10	9	1	90
Totals & Av'rag's	72	22	50	39	11	78.0	67	14	53	51	2	96.2
1908.												
June 6...	72	10	62	52	10	83.9	30	4	26	25	1	96.2
"	77	7	70	63	7	90.0						
Totals & Av'rag's	149	17	132	115	17	87.0	30	4	26	25	1	96.2
1908.												
July 14...	150	23	127	119	8	93.7	137	29	108	104	4	95.3
" 20...												

* 19 Eggs broken.

We wish to draw particular attention to the figures in the last column, giving the average weight of chickens, because we believe that the livability of the chicks depends to a great extent on their weight when hatched, and this is substantially borne out by Tables 2 and 3, giving the rearing results of hen-hatched and incubator chickens and the increase in weight during the first two weeks.



An Incubator Problem.

TABLE 2.—CHICKS BROODED IN BROODER.

Date put in Brooder.	HEN-HATCHED CHICKS.			INCUBATOR-HATCHED CHICKS.		
	Number Brooded	Dead in 4 Weeks	Per Cent. Dead	Number Brooded	Dead in 4 Weeks	Per Cent. Dead
May 10, 1908	27	2	7.4	40	16	40
June 13, 1908	10	1	10	52	14	26.9
" " "	9	2	22	63	22	34.9

BROODED WITH HENS.

Date Set in Brooder.	HEN-HATCHED CHICKS.			INCUBATOR-HATCHED CHICKS.		
	Number Brooded	Dead in 4 weeks	Per Cent. Dead	Number Brooded	Dead in 4 Weeks	Per Cent. Dead
May 10, 1908	5	0	0	15	7	46.6
" " "	5	0	0	15	5	33.3
" " "	5	0	0	15	8	53.3
June 13, " "	10	1	10	10	7	70
" " "	10	0	0	10	5	33.3
April 28, 1908				12	2	16.7
				12	8	66.7
				16	5	31.2
				16	5	31.2
				16	2	12.7
				20	16	80.0
				20	11	55.0

TABLE 3.—WEIGHT OF CHICKS WITH HENS.

	HEN-HATCHED.	INCUBATOR-HATCHED.
May 10.....	1.277 ounces	1.151 ounces
May 28.....	2.75 ..	2.31 ..
June 18.....	6.26 ..	5.48 ..

On the same date a number of the same kind of chicks were put in a brooder, with the following results in growth :

	HEN-HATCHED.	INCUBATOR-HATCHED.
May 10.....	1.277 ounces	1.151 ounces.
May 28.....	1.981 ..	1.895 ..
June 18.....	3.894 ..	3.708 ..

The figures given here are lower than those arrived at by Mr. Brown, as published last month, but the reason is that Brown Leghorns were used in this instance.

Another very important question in connection with incubation is that of moisture, and in the report we read that—

Investigations are now under way at this station along lines of improvement in incubation. These will be reported upon from time to time as the results warrant publication. A series of moisture tests designed to show what degree of humidity in incubators gives best results in hatching was started on April 4, 1908, and a report of these experiments is given herewith.

Table 4 gives a summary of the moisture tests :

TABLE 4.—SUMMARY OF MOISTURE TESTS.

Date Set.	NO MOISTURE.				MEDIUM MOISTURE.				MAXIMUM MOISTURE.			
	Incubator No.	Number of Eggs Set.	Number Hatched.	Per Cent. Eggs Set Hatched.	Incubator No.	Number of Eggs Set.	Number Hatched.	Per Cent. Eggs Set Hatched.	Incubator No.	Number of Eggs Set.	Number Hatched.	Per Cent. Eggs Set Hatched.
1908.												
April 4 ...	4	150	83	55.3	7	150	81	54.0	2	150	99	66.0
" 6 ...	5	156	54	34.6	8	156	90	57.7	7	157	81	51.6
" 9 ...	12	154	60	39.0	9	154	87	56.5	10	154	88	57.1
" 30 ...	2	138	84	60.9	1	139	102	73.4	4	150	101	67.3
May 22 ...	7	102	49	48.0	6	102	64	62.7	8	101	51	50.5
Totals and Averages		700	330	47.1		701	424	60.5		712	420	59.1

The average results show strongly in favour of moisture against non-moisture, and slightly in favour of medium moisture as against maximum moisture.

The percentage humidity of the incubators is given in Table 5. With regard to this question Mr. Dryden remarks :

The proper degree of humidity in incubators has not yet been determined, but it would seem that these experiments have brought us close to an actual demonstration. Investigations will be continued along this line. The tests show unmistakably that moisture or humidity conditions of the egg chamber of the incubator have a remarkable influence on number of chicks hatched. The results apparently show the limits of extreme dryness and dampness. A percentage of 48.7, average of the no-moisture machines, gave poor results ; 55.3 per cent. gave relatively good results, and 64.7 was not as good as 55.3, as determined by the unfanned wet bulb thermometer.

It is a question of some importance as to what effect climatic conditions have upon hatching. Will the eggs hatch better in a dry climate than in a moist one ? Does the incubator require moisture in a dry climate and none in a humid one ? A study of records of experiments at the Utah Station in connection with the records at this station will throw some light upon this subject.

TABLE 5.—HUMIDITY OF INCUBATORS.

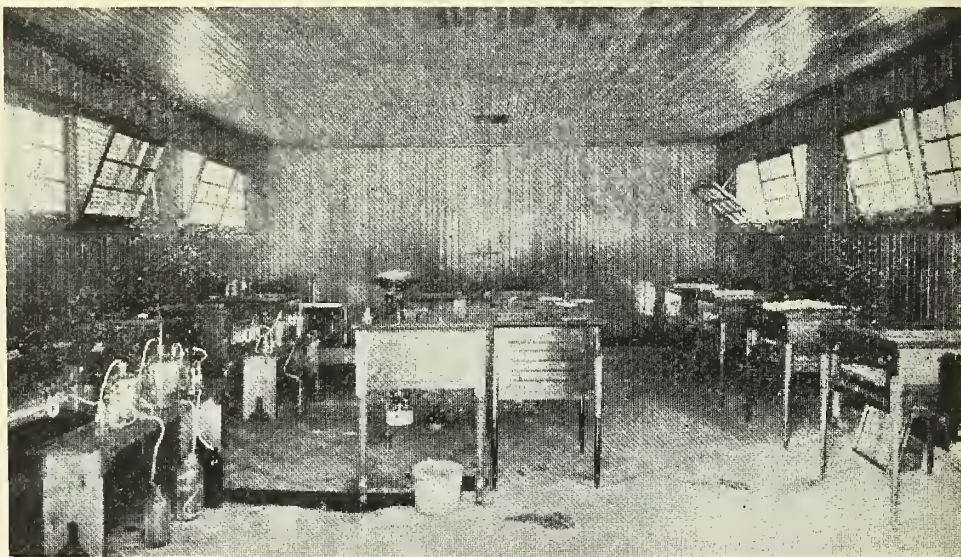
(Wet Bulb Not Fanned)

Date Set.	NO MOISTURE.				MEDIUM MOISTURE.				MAXIMUM MOISTURE.			
	Incubator No.	Morning.	Noon.	Evening.	Incubator No.	Morning.	Noon.	Evening.	Incubator No.	Morning.	Noon.	Evening.
April 4, 1908 ...	4	45.4	46.5	45.5	3	50.7	51.6	51.4	2	56.0	66.3	65.6
" 6 " ...	5	45.3	46.2	46.6	8	58.2	58.5	58.3	7	53.9	63.9	65.2
" 9 " ...	12	51.4	53.6	52.3	9	53.1	54.1	53.2	10	—	—	—
" 30 " ...	2	44.3	47.6	47.3	1	57.4	59.0	56.8	4	51.2	62.3	62.1
May 22 " ...	7	51.9	52.5	53.7	6	57.8	55.4	53.8	8	66.1	64.2	62.9
Averages...		—	—	—	—	—	—	—	—	—	—	—

Connected with the relative humidity in the machines is the percentage loss of weight in the eggs during the process, both by the artificial and natural methods, and particulars of this are given in Tables 6 and 7.

TABLE 6.—PER CENT. LOSS OF WEIGHT IN INCUBATOR EGGS.

Date Set.	NO MOISTURE.				MEDIUM MOISTURE.				MAXIMUM MOISTURE.			
	Incubator No.	First 6 Days.	Second 6 Days.	Third 6 Days.	Incubator No.	First 6 Days.	Second 6 Days.	Third 6 Days.	Incubator No.	First 6 Days.	Second 6 Days.	Third 6 Days.
April 4, '08	4	4.49	5.07	5.55	3	3.78	3.68	2.95	2	2.82	3.03	3.83
" 6 "	5	5.08	4.82	6.20	8	4.16	3.80	6.23	7	3.49	3.75	5.77
" 9 "	12	4.89	5.24	9.49	9	3.68	4.04	4.67	10	2.97	3.01	3.63
" 30 "	2	4.88	4.55	7.26	1	3.98	3.49	6.00	4	3.58	3.25	4.90
May 22 "	7	5.07	4.23	6.37	6	4.31	3.81	5.21	8	3.45	2.45	4.06
Average...		—	—	—	—	—	—	—	—	—	—	—



INTERIOR INCUBATOR HOUSE AT OREGON, U.S.A.

TABLE 7.—PER CENT. LOSS OF WEIGHT IN EGGS UNDER HENS.

Date Set.	Number of eggs.	First 6 days.	Second 6 days.	Third 6 days.	Total 18 days.
April 18, 1908.	5	4.25	5.05	4.35	13.65
" " "	4	4.80	5.28	5.45	15.53
" " "	6	4.55	4.85	4.93	14.33
" " "	6	3.89	5.08	5.34	14.31
May 22 " "	6	4.01	8.90	—	12.91
" " "	5	5.57	10.09	—	15.66
" " "	5	5.13	10.63	—	15.76
June 6 " "	5	5.26	5.33	6.22	16.81
" " "	4	5.93	3.47	5.51	14.91
Average	71.48

As a side experiment chemical tests for oil on eggshells were made, and as this subject has been brought forward so frequently we intend to deal with the results obtained at Oregon and elsewhere more fully in a later issue.

The following is a summary of the finding in the efficiency of hens and incubators.

1. From 879 eggs set, incubators hatched 533 chicks, or 60.6 per cent.

2. From 279 eggs, hens hatched 219 chicks, or 78.8 per cent.

3. Eliminating eggs broken in nest, the hens hatched 88.2 per cent. of eggs set.

4. The incubators hatched 78.5 per cent. of "fertile" eggs, and the hens hatched 96.5 per cent.

5. Eggs incubated artificially tested out 22.7 per cent. as infertile, while those incubated by hens tested out 11.8 per cent.

6. The incubators showed 16.6 percent. of chicks "dead in the shell," and the hens 2.8 percent.

7. Chicks hatched under hens weighed heavier than chicks hatched in incubators.

8. The mortality of hen-hatched chicks brooded in brooders was 10.8 per cent. in four weeks, and of incubator-hatched chicks 33.5 per cent.

9. The mortality in hen-hatched chicks brooded under hens was 2.2 per cent., and of incubator chicks 49.2 per cent.

10. In other tests the mortality was 46.5 per cent. for incubator chicks brooded by hens and 58.4 for those brooded in brooders.

11. Hen-hatched chicks made greater gain in weight than incubator chicks, whether brooded by hens or brooders.

MOISTURE AND INCUBATION.

12. There was an increase in number of chicks hatched of 32.6 per cent. by using moisture in incubators.

13. Both a medium and a maximum amount of moisture gave better results than no moisture.

14. Climatic conditions as to humidity have apparently no effect on hatching in the case of non-moisture incubators.

15. In the case of moisture machines less moisture will be required in a moist climate than in a dry one.

16. The wet bulb thermometer may be used to advantage as an indicator of the proper degree of humidity in the incubator.

17. An average wet-bulb temperature of 87.6 gave 32.6 per cent. better hatches than one of 84.5, and slightly better than one of 91.

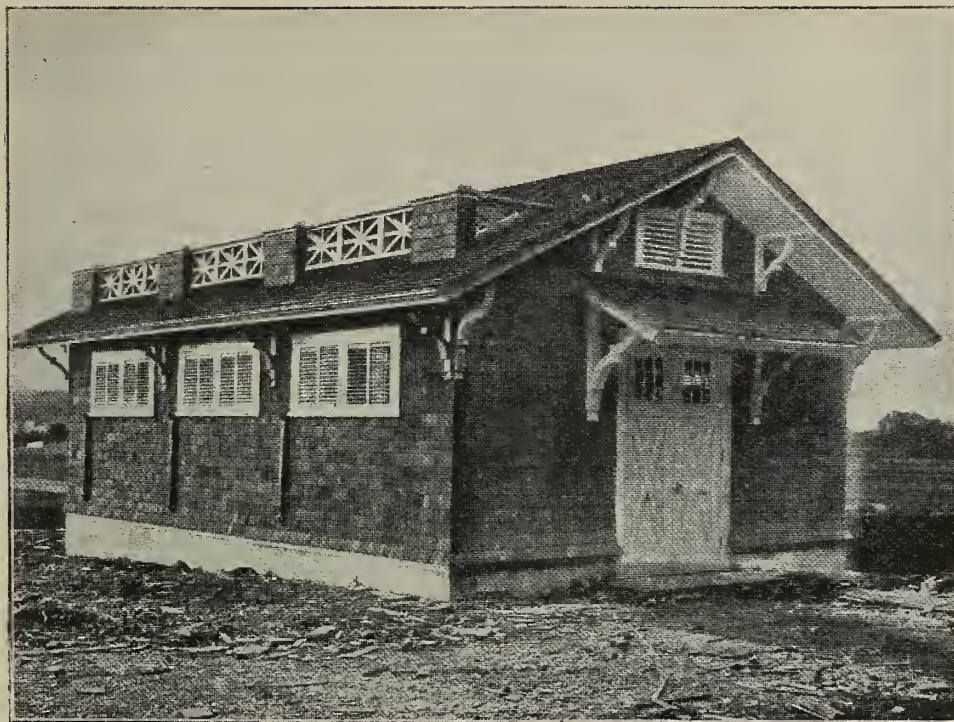
18. The average loss in weight of eggs incubated under hens in a dry nest was 14.87 per cent. in 18 days.

19. Eggs in non-moisture incubators lost 16.64 per cent. of their weight, in medium moisture incubators 12.76, and in maximum moisture incubators 10.8 per cent.

20. The chicks from the moisture machines were heavier than from the dry machines, but it has not yet been demonstrated what relation moisture in incubation has to vitality in the chick.

21. The lack of moisture does not alone explain the great mortality in in-

cubator chicks, but it is responsible for a large percentage of the losses in hatching.



THE INCUBATOR HOUSE AT OREGON WHERE THE EXPERIMENTS DESCRIBED ON THIS PAGE ARE CARRIED ON.

CARBON DIOXIDE IN INCUBATION.

To the Editor of THE ILLUSTRATED POULTRY RECORD.

SIR,—Regarding experiments on above, might I suggest that a similar action may occur as in plant life?

We are led to believe, as the shell is porous, that the chick to some extent breathes, or "absorbs," during incubation, and it is possible the CO_2 is split up into carbon and oxygen, the chick in "embryo," or "foetus," inhaling or absorbing the oxygen, and the carbon being assimilated, forming "body-tissue."

In plant life we know plants, &c., act a very important part in our lives. The carbon dioxide is split up by plants, trees, and flowers, they assimilating the carbon, while the oxygen is given back to the atmosphere.

I should like to hear further regarding the above heading.—Yours, &c.,

T. S. LAIDLER.

THE MARKETS & MARKETING

CONDUCTED BY    VERNEY CARTER

The Trade in Game.

Unlike the first few grouse and partridges, the early arrivals of pheasants realised but low values, which is accounted for by the fact that the earliest pheasants come from aviaries. These adversely affected the price of the shot birds, although the latter commanded the better prices of the two. The most notable feature of the pheasant trade has been the fact that prices are ruling as high at the end of the month as they were on the mornings of the 1st and 2nd. The birds are fairly plentiful and in excellent condition. Grouse have been scarce, realising a ready sale at good prices.

English Poultry Trade.

The warm weather has had a bad effect upon the poultry markets, trade being much duller than is usual at this period, while a considerable amount of poultry has gone wrong in transit. Salesmen are complaining very much and wishing for some brisker weather to brighten the trade up.

The English Egg Trade.

This trade during the month under review has been good, although in the beginning there was a slight weakening of prices, owing to the spell of warm weather, which made supplies more plentiful than is usual at this period. The feeling is generally prevalent that English eggs as a consequence will be scarce this winter.

The Foreign Poultry Game Trade.

Very little trade has been done during the month in this line. The little foreign poultry that has arrived on to the market has principally been that which was left over from last season. There is no American poultry on the market at all, beyond a few cases sent over as samples of what America will have to offer next January and February. A few Austrian birds are being offered for sale now. Since the year 1906 the trade in this country of American cold-stored poultry has shown a very marked decline, which may be attributable to two causes. In the first place, to the very strong competitor she has in Russia,

whose imports under this heading have shown a steady increase; and, in the second place, it is more than probable that, as was the case in Canada, the local demand has increased and consequently better prices are obtainable in New York.

The Foreign Egg Trade.

The imports of foreign eggs for the nine months ending September 30 show an increase of 523,085 great hundreds, valued at £227,801, as compared with the corresponding period of 1907. In spite of this increase, prices have generally ruled high and merchants complain of having difficulty in finding a ready sale at profitable rates. Especially has this been the case with both Danish and French goods of the best quality. Foreign shippers have had to raise the price, with the result that sales have been rather slow; particularly has this been the case with Italian eggs.

THE EGG AND POULTRY TRADE.

Can We Compete with the Foreigner?

By VERNEY CARTER.

IN the last issue the respective comparative values of foreign eggs were dealt with, and at the same time we tried to dispose of that prevalent erroneous impression that our climate is not as suitable for poultry production as that of those foreign countries which supply the preponderating mass of these imports. The question of our ability to compete with our foreign rivals does not so much depend upon local conditions or circumstances as upon the methods of production and marketing adopted. These all too often are antiquated, chaotic, and inadequate. Although undoubtedly great progress in these branches of the industry has been made during the past few years, there is still a very large field open to improvement.

In how many country districts do we find any earnest attempt being made to reorganise production and the methods of marketing? In very few, we are afraid. In how many districts do we find the English farmer selling his poultry produce at rates below

those which organised foreign supplies are realising in our large cities and towns? In very many, we fear. When one hears of eggs selling at twenty and twenty-two a shilling, can one be surprised when the English farmer says, "Poultry-keeping does not pay, and it is utterly impossible for us to try and compete with the foreigner."

If he would only realise it, the remedy lies entirely in his own hands. He has only to adopt the superior method of his Danish rivals, when he would quickly be convinced of its advantages and what possibilities and opportunities there are of enhancing his returns. That this has been amply proved by the success which has attended the efforts of the few co-operative poultry societies recently founded in this country. It is in this direction that English producers must look for improvement in returns. Were this principle more widely adopted, it would be of immense benefit to the producer. Its adoption would in no way be a hindrance to individual enterprise. On the contrary, it would, by raising the standard of values, be most helpful and stimulating. It would also be of great service to both the retailer and consumer, inasmuch as

they would be able to obtain supplies of the best quality in adequate quantities. Under the method generally obtaining this is impossible, as there is no organised centre to which the trader can apply and feel assured that he can rely on his requirements being fulfilled. Consequently, against his wish, he is often obliged to resort to foreign supplies.

The whole question is one that can be solved by

"self-help" more effectually than by "legislation." Whilst we are supine, can we grumble if our rivals take advantage of the opportunities left open to them owing to our indifference? If we would only adopt better methods of marketing, not only would enhanced returns be realised, but also demand would be very greatly stimulated and increased, and everyone, from the humble cottager who keeps his few hens to the consumer, would be benefited.

As has been stated above, nearness to the point of consumption is an advantage that no foreigner can wrest from the English producer. This is a supreme advantage, and proximity to the point of consumption should be synonymous with freshness. It is owing to our indifference and neglect of this great advantage that our Danish rivals have gained such a hold upon the English market.

That we can, and do, successfully compete with our foreign rivals is fully illustrated by the great strides the poultry industry is making in Great Britain and Ireland, and for further evidence one has only to refer to the prices which English eggs and poultry realise, and compare them with those obtained by our foreign rivals.

The fairest test

which can be put upon goods of this class is their marketable value, and it will be found upon inquiry that English produce as a whole commands a far higher average value than that of our foreign rivals. All we have to do is to study to produce the best and to adopt the best means of marketing. If we do this, not only shall we find that we can compete with them, but that we can far outstrip them.



THE FIRST PRIZE CROSS-BRED COCKERELS AT THE DAIRY SHOW.
WEIGHT 28-LBS. THE PAIR.

[Copyright.]

TABLE POULTRY AND EGGS AT THE DAIRY SHOW.

THE table poultry section of the Dairy Show held during the second week of October was, on the whole, extremely satisfactory. The quality of the exhibits, with, perhaps, the exception of goslings and ducks, well maintained the high character that the "Dairy" has gained for itself in previous years.

We should like to draw special attention to an entirely new feature in the show, namely, a class confined to farmers and cottagers who are *bona fide* rearers of chickens, who feed their birds under altogether natural conditions, and who do not resort to cramming. The excellent support accorded to this class should encourage the Council of the British Dairy Farmers' Association to enlarge this feature another year and to provide at least two classes, one for cockerels and one for pullets.

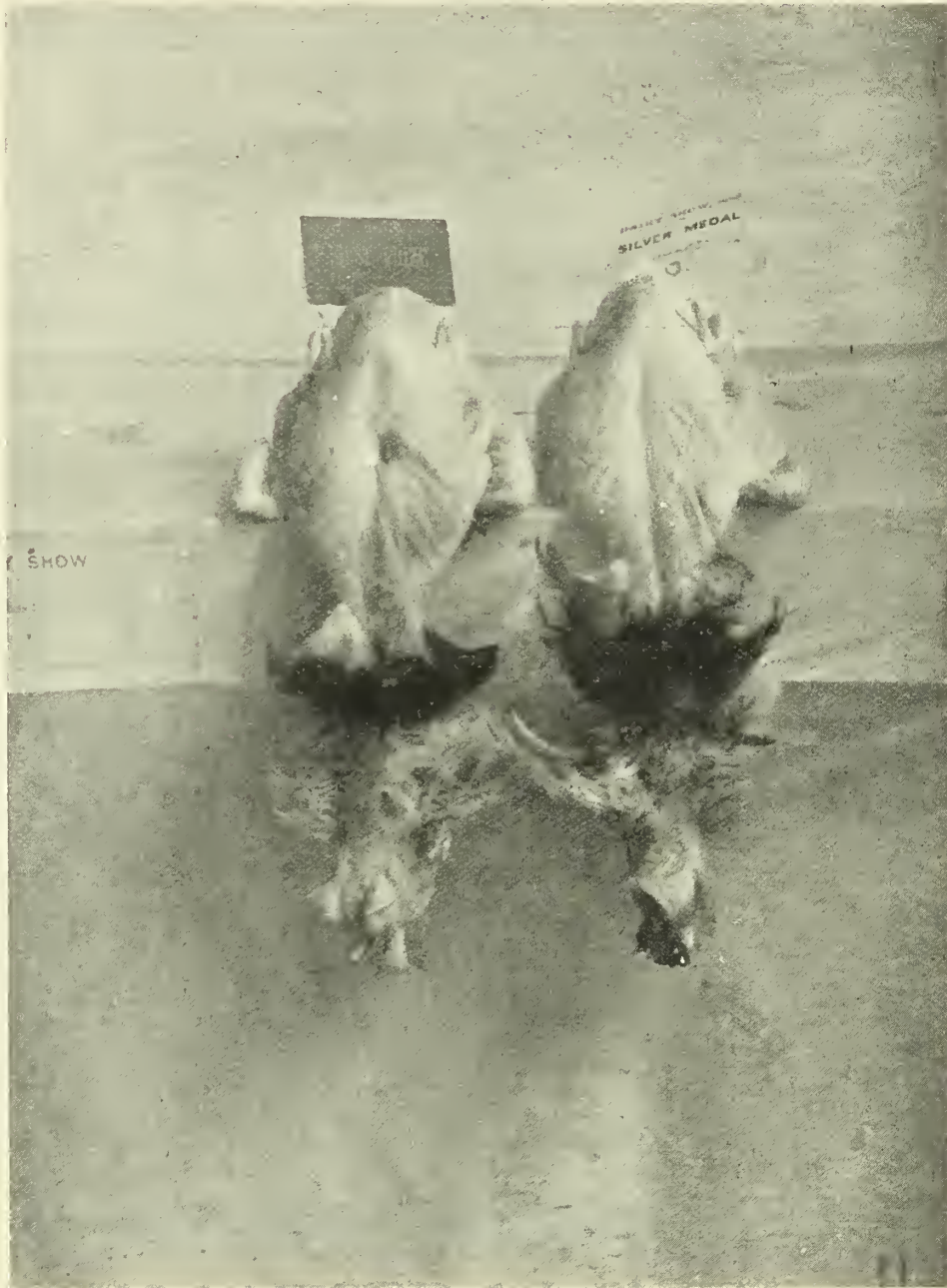
The display of Dorkings was somewhat disappointing, particularly that of the cockerels, for which there were only seven entries, three of which were absent. The classes for a couple of any other variety, cockerels and pullets, were well supported so far as numbers were concerned, though the quality was not quite up to the mark.

The classes for cross-breeds were good ones, and some excellent specimens were exhibited. The birds were large and well prepared, while in very few cases was any fault to be found in colour or quality. The winning cockerels were the largest we have ever seen, and the couple weighed just over 28 lbs.

In the classes for any other cross some exceedingly fine birds were shown, particularly in the case of the pullets. Most of the exhibits were very large and long-breasted, but a few failed rather badly so far as colour of flesh was concerned. The cockerels were good birds individually, but were very uneven, one being much larger than the other. The pullets were exceptionally fine. The Surrey and Sussex chickens were disappointing, both cockerels and pullets, and did not compare at all favourably with those of previous years. The same man won in both classes, and his birds were very creditable indeed. The winning pullets were small, but of superb quality and colour.

The Waterfowl were poor, particularly the goslings. The colour of nearly all the exhibits was very bad indeed, and some of the birds had really no business at all to be in the show. Ducks were rather better, but still were poor.

The eighteen exhibits of Irish eggs under the auspices of the Department of Agriculture for Ireland, although of high excellence, left some room for improvement. Some of these exhibits were shown by Irish merchants and some by the Irish Co-operative Societies, the former exhibits being the better



THE WINNING DORKING COCKERELS AT THE DAIRY SHOW.

[Copyright.]

of the two; the latter were not what one would altogether wish as regards cleanliness. For one thing the straw used in packing was not as dry as it should have been. This is a great failing in the packing of Irish eggs generally, and until this defect is cured they will not realise their full values, as damp straw always imparts an unpleasant flavour. This, as well as using damp, unseasoned wood in making the cases has been an Irish failing for many years.

TABLE OF PRICES REALISED FOR HOME, COLONIAL, AND FOREIGN POULTRY, GAME, AND EGGS DURING OCTOBER.

ENGLISH POULTRY—LONDON MARKETS.

DESCRIPTION	1st Week.	2nd Week.	3rd Week.	4th Week.
	Each.	Each.	Each.	Each.
Surrey Chickens.....	2/9 to 4/6	2/9 to 4/6	2/6 to 4/6	2/6 to 4/6
Sussex	2/9 " 4/6	2/9 " 4/6	2/6 " 4/6	2/6 " 4/6
Yorkshire	2/0 " 3/6	2/6 " 3/3	2/0 " 3/6	2/3 " 3/6
Boston	2/0 " 3/6	2/0 " 3/3	2/0 " 3/6	2/0 " 3/3
Essex	2/0 " 3/3	1/9 " 3/3	2/0 " 3/6	2/6 " 3/3
Capons.....	1/6 " 2/6	1/3 " 2/6	2/0 " 2/9	2/0 " 2/9
Irish Chickens	1/6 " 2/6	1/0 " 2/0	1/3 " 2/4	1/3 " 2/3
Live Hens	2/6 " 3/6	2/6 " 3/6	2/6 " 3/6	2/6 " 3/6
Aylesbury Ducklings	2/0 " 2/6	1/9 " 2/9	5/6 " 7/6	5/6 " 7/6
Ducks	4/0 " 8/6	4/0 " 7/6	4/0 " 8/6	4/0 " 8/6
Geese				
Turkeys, English ...				
" Irish				

ENGLISH GAME—LONDON MARKETS.

DESCRIPTION.	Each.	Each.	Each.	Each.
Grouse.....	3/0 to 4/0	3/0 to 4/0	3/0 to 4/0	3/0 to 4/0
Partridges	1/9 " 2/0	1/9 " 2/0	1/6 " 2/0	1/6 " 2/0
Pheasants	3/6 " 4/0	3/6 " 4/0	3/6 " 4/0	3/6 " 4/0
Black Game.....	2/0 " 3/0	2/0 " 3/0	2/0 " 3/0	2/0 " 3/0
Hares	per lb.	per lb.	per lb.	per lb.
Rabbits, Tame	0/5 " 0/7	0/5 " 0/7	0/5 " 0/7	0/5 " 0/7
" Wild.....	0/7 " 0/10	0/7 " 0/10	0/7 " 0/10	0/7 " 0/10
Pigeons, Tame	0/4 " 0/6	0/4 " 0/6	0/4 " 0/6	0/4 " 0/6
" Wild.....	0/6 " 0/8	0/6 " 0/8	0/6 " 0/8	0/6 " 0/8
Wild Duck	1/6 " 2/0	1/6 " 2/0	1/6 " 1/9	1/6 " 1/9
Woodcock	0/6 " 0/10	0/6 " 0/10	0/6 " 0/10	0/6 " 0/10
Snipe	0/4 " 0/9	0/4 " 0/9	0/4 " 0/9	0/4 " 0/9
Plover				

ENGLISH EGGS.

MARKETS.	Per 120.	Per 120.	Per 120.	Per 120.
LONDON	12/6 to 14/2	13/0 to 15/0	14/0 to 16/8	14/0 to 16/8
Provinces.	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-	Eggs per 1/-
MANCHESTER. ...	8 to 9	8 to 9	8 to 9	7 to 8
BRISTOL	1/2 per doz	1/2 per doz	1/3 per doz	1/3 per doz

FOREIGN POULTRY—LONDON MARKETS.

COUNTRIES OF ORIGIN.	Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. per lb.	Turkeys. per lb.
Russia.....	0/9 to 1/3				
Belgium				0/5 to 0/6	
France					
United States of America					
Austria	1/4 to 1/6				
Canada					
Australia					
			PRACTICALLY NO	TRADE.	

FOREIGN GAME. LONDON MARKETS.

	Price Each During Month.
Capercailzie	1/10 to 2/0
Black Game.....	1/0 " 1/1
Partridge.....	1/0 " 1/6
Quail	0/10 " 1/2
Bordeaux Pigeons	1/10 " 2/3
Hares	0/7 " 0/8
Rabbits.....	
Snipe.....	

IMPORTS OF POULTRY AND GAME. MONTH ENDING SEPT. 30, '08.

COUNTRIES OF ORIGIN.	Game. £996	Poultry. £613
Russia	1,506	4,502
Belgium	216	3,348
France	—	7
United States of America	5,204	2,261
Other Countries		
Totals	£7,922	£10,731

IRISH EGGS.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.
	Per 120.	Per 120.	Per 120.	Per 120.
Irish Eggs	9/0 to 10/9	9/0 to 10/6	9/0 to 11/0	10/6 to 11/6

FOREIGN EGGS.

DESCRIPTION.	1st Week.	2nd Week.	3rd Week.	4th Week.
	Per 120.	Per 120.	Per 120.	Per 120.
French ...	13/0 to 14/0	14/0 to 14/6	14/0 to 15/0	15/0 to 15/6
Danish ...	10/0 " 11/6	10/3 " 11/3	10/3 " 11/3	11/0 " 12/3
Italian ...	10/0 " 11/6	9/6 " 10/6	10/0 " 11/0	10/0 " 11/6
Austrian...	7/0 " 8/3	7/0 " 8/3	7/0 " 8/3	8/0 " 9/6
Russian ...	6/9 " 8/0	7/3 " 8/6	7/3 " 8/3	8/0 " 9/6
Australian..	—	—	—	—
Canadian..	—	—	—	—

IMPORTS OF EGGS. MONTH ENDING SEPT. 30, '08.

COUNTRIES OF ORIGIN.	Quantities in Gt. Hund.	Declared Values. £
Russia	1,142,196	387,083
Denmark	401,132	191,087
Germany	149,214	52,654
Belgium	133,517	54,379
France	109,462	46,123
Canada	11,290	540
Australia	64,561	26,149
Other Countries..		
Totals	2,001,282	£758,015

REVIEWS OF NEW BOOKS.

"The Life Story of a Fowl." By J. W. Hurst. With twelve illustrations in colour. "Animal Autobiographies" Series. (A. and C. Black. Price 6s. net.)

MR. J. W. HURST needs no introduction to readers of THE ILLUSTRATED POULTRY RECORD. He is known as a thoughtful writer on all matters connected with poultry production—as a serious authority possessing the practical and theoretical knowledge that gives weight of seriousness. But there is another Mr. Hurst who is not so well known, or perhaps one should say, another phase of the same Mr. Hurst,—which might not have been suspected, were it not for the volume, "The Life Story of a Fowl," to which his name is appended. If the author of this amusing and at the same time instructive book does not exactly break fresh ground, he treats his subject in a new and attractive way. The particular "subject" in this case is a speckled Sussex hen, and—as the editor of the "Animal Autobiographies" Series observes—Mr. Hurst acts as her amanuensis, telling the story of her adventurous life with a Boswell's faculty for minute detail. Born and bred on a general farm, her career as a chick and a pullet was sufficiently exciting to last most birds a lifetime. Her more thrilling adventures included a narrow escape from a fox that raided the hen-house, and a three-weeks' sojourn at a higgler's, the latter culminating in the nick of time with the hen heroine's rescue by her master, just as her condition of "ripeness" threatened her dispatch to another world and to Leadenhall Market. A "Palace" Show, where our heroine, long regarded by her owner as something out of the ordinary, takes a "first" and "special," is most entertainingly described from the hen's point of view. Finally, she settles down to the ordinary periods of motherhood and a life of ease.

One feels that the personages, human and animal, that populate this hen's little world are as near to portraits as it is possible for the creations of fiction to be; which is to say that they are very true types. Take the farmer master who developed "queer interfering notions." The hen, through Mr. Hurst, tells deliciously how this worthy experimented with a trap nest:

The first box he opened had an egg in it, but no hen; and he said that was only because the spring wanted oiling. In the next box was a hen, but no egg; so he shut her in again, as he said she would soon lay one. In the third box there were two hens, and only one egg; and then he said something I didn't quite understand, and Jack walked outside—I think he was laughing. The other boxes were all empty but shut; and behind them, in a corner on the ground, were six eggs.

The "master" ultimately dismantled the trap-nest that the hens objected to, but did not give up his attempts to be modern in other respects. Hence we are introduced to his colony houses, his chicken house and other contrivances that strike our hen as new-fangled. To this extent the book is instructive, particularly to the young reader whose interest in poultry farming is just beginning to dawn; while the vein of quiet fun that runs through the instruction makes it highly palatable to the elder, more experi-

enced, generation. What is even better, it is impregnated with the atmosphere of the Sussex country; Mr. Hurst's descriptions of that favoured land are full of the sentient appreciation that marks the sincere nature-lover. We catch more than one whiff of the downs air, as it gathers fragrance from the upland heath of Ashdown Forest and from the sweet grasses of the plain.

"The Poultry Doctor." By "Mid-England." (Published by the Feathered Life Publishing Company, London. Price 1s. net.)

A most useful book on poultry hygiene and disease has just appeared in "The Poultry Doctor," by a well-known writer. Owing to his system of classification by grouping together kindred diseases as they affect each organ, the reader not only obtains a far more intelligent idea of the nature of the malady he has to combat, but, as several similar ailments are thus brought together, and then their differing symptoms pointed out, he is far better able to diagnose correctly what complaint it is exactly his birds are suffering from, and to adopt the proper treatment, which is clearly given in each case. Besides an excellent introduction on the causes of disease generally, together with clear and practical instructions for making a post-mortem, the book is divided into chapters on the various organs and their characteristic maladies, the respiratory, digestive, and reproductive organs receiving full attention, while complaints arising from impurities of the blood are carefully described. Parasites and external complaints, accidents and various other ills, are prescribed for, and clear directions are given for caponising.

Throughout the book the reader is taught *how* to observe, and then correctly interpret, the symptoms of illness and suffering as they appear, and the book is written in simple language that all can easily follow, technical phrases being fully explained where their use was unavoidable. An excellent chapter turns on the problems of feeding, the various classes of food, and their suitability for poultry, being discussed in turn. As to the philosophy, as we may call it, of special feeding for eggs or table qualities, we cannot do better than quote the author's own words—"The science of feeding, therefore, is an important one. It involves careful consideration of the ingredients necessary to promote the particular object in mind; but, from the point of view of medical lore, it is necessary to look at the effect of different foods upon the general health of poultry. We may as well face the fact that feeding for egg production or for growth and marketability do not by any means coincide with feeding for health. Eggs, being a surplus product of the fowl, must be provided by a process of overfeeding if they are to be plentiful. The hen in her natural state—living, that is, like the wild pheasant—would be but an indifferent layer. She would produce a very limited number of eggs; but the effect of domestication is to make her more productive, and the science of feeding for egg production lies in discovering how to give a superfluity of food so as to force laying without injuring the bird's health. As a matter of fact, no hen scientifically fed for egg producing can stand the process more than a couple of years."



SITUATE on the fringe of the New Forest, Ringwood was once a Royal manor. And it is a right royal road, in point of its straightness and its perfect surface, that runs from Ringwood to Poole, and shows its third milestone just outside the entrance to St. Leonard's Farm, the property of Mr. W. M. Bell, the well-known breeder of poultry and other live stock. Just three miles is it to the house at St. Leonard's—three miles of sweeping undulations, with not a nobbly bit to disturb the symmetrical rise and fall of the road, if we except the old bridge over the river; and even that old bridge is in process of giving place to one that is newer and flatter. The highway's straight edge pierces marshland to begin with—a pretty sedgegrown marshland that still retained its greenness and its prettiness when we passed it in mid-October—and then, rising by stages so easy as to be hardly perceptible, cuts straight through the heart of a moorland tract dotted with firs and pines and ablaze with purple heather and bracken turning to old gold. A delicious country, truly, where Nature is prodigal with her richest tints—yet the local agriculturists call it “poor land,” and at one point at the roadside voice their convictions by means of a huge notice-board proffering a number of acres for sale “as a whole or in building plots!” May the lesser evil befall it!

But that it was not “poor land” for poultry was clearly the opinion of Mr. Bell when he came to

Ringwood six years ago and took over St. Leonard's Farm, lock, stock, and barrel. How far that opinion has been justified is proved by the long list of exhibition successes that stand to his credit. So far, indeed, as St. Leonard's is concerned, the soil would appear to be puzzling rather than poor, and Mr. Bell's successful general farming seems to indicate that, given a careful system of drainage, the other difficulties can be conquered. The ground is patchy, undoubtedly—more patchy and less consistent than one would gather from the appearance of the high road, where a sandy loam would seem to prevail. Yet virtue may be found even in patchiness, and one of the many virtues of St. Leonard's Farm—a very important one from the poultry standpoint—is a bed of gravel. The entire farm consists of about 500 acres, and the many kinds of produce that its owner contrives to raise and market profitably are at any rate a strong argument in favour of the soil, be it good, bad, or merely indifferent.

We are not immediately concerned with any breeding, save that of poultry, which is now carried on at St. Leonard's. One may mention, however, that a pedigree herd of Jerseys and a piggery containing pedigree Berkshires are among Mr. Bell's possessions, and that these have already brought him reputation. Extensive strawberry and raspberry beds represent his excursions in fruit culture; quantities of violets are grown; acres are devoted to vegetables of every description. The plant and accommodation

for the live stock referred to are thoroughly up to date and efficient, and a new cowshed in course of construction at the time of our visit called attention to the fact that Mr. Bell manufactures his own bricks.

These details, and the way in which they have been thought out, may not seem of pressing importance to those who are interested in the poultry industry alone; but we refer to them, before going back to our main subject, because they help to suggest the qualities of self-reliance and the power of organisation, without which no poultry breeder on a large scale can hope to make a success.

When Mr. Bell came to St. Leonard's, the farm was solely a poultry farm with a large and varied stock of many breeds. Mr. Bell bought the stock with the farm, but it was not long before he effected a radical change in the character of the former. To-day, instead of between twenty and thirty different breeds, he has only one; and that one, while it is the finest utility breed in the world, is not bred by him for a merely utility purpose. He specialises in the Orpington, in the black, white, and buff varieties, and a glance at his exhibition shed will show the triumphs he has achieved with these, more especially with the black.

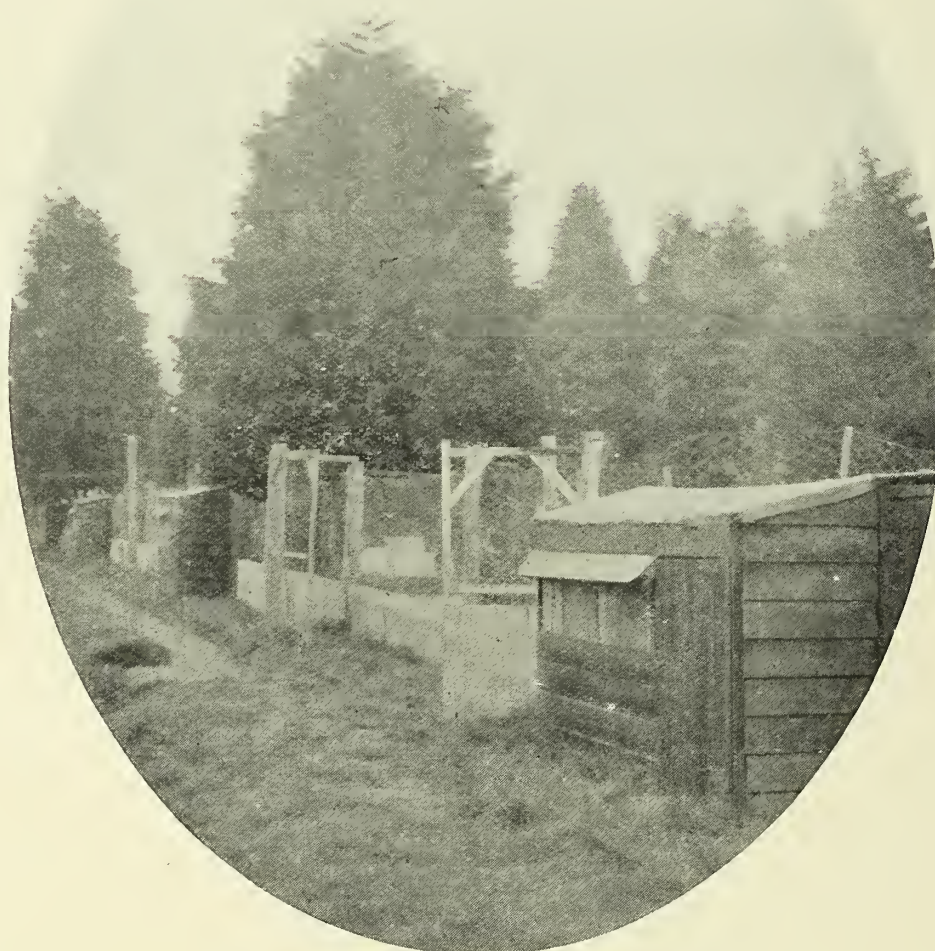
There are about 600 show cards displayed in this shed. If we except those that relate to the Dairy, the International, the Crystal Palace, and the Birmingham shows, all of them are "firsts." Of the methods whereby these results have been, and are being, attained, Mr. Bell gave us some interesting particulars.

The first point to notice is that every bird is hen-hatched and hen-reared, Mr. Bell having become so far a convert to the natural method of hatching that his erstwhile incubator house has been converted into a model dairy. At present he has

only one incubator on the premises. A second fact to remark is that all his winners of recent years have been bred and reared on the farm. In 1904 he bought a Black Orpington at the Dairy Show for £50, but this was an exceptional proceeding which has not been, and is not likely to be, repeated. Necessarily he buys stock from time to time, but such stock is only from what was once his own. In a sense, therefore, he never buys but what he buys back.

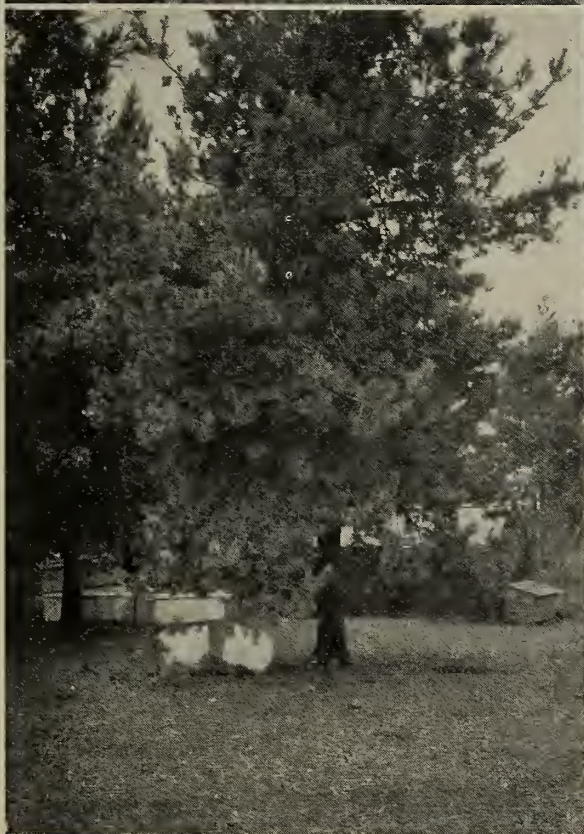
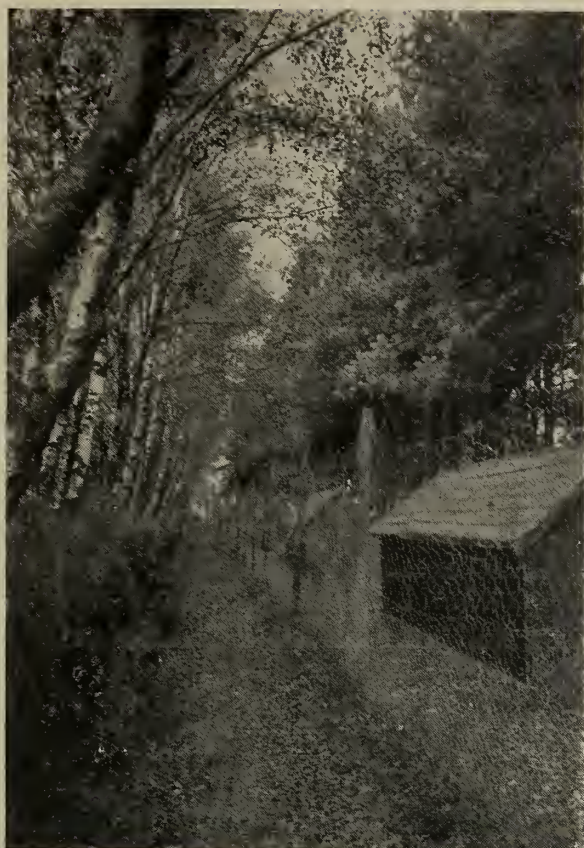
Here, indeed, we have specialisation by selection in its highest form, and it is not nearly as

common as one might think, even among breeders of first-class stock; the temptation to experiment with an entirely new strain is one that is not easily resisted. Mr. Bell, however, knows exactly what he wants, and goes the most direct and the most soundly logical way to get it. If he is, on the whole, opposed to artificial hatching and rearing, he has been quick to adopt any modern artifice that directly helps him to the end he has in view. He showed us a trap-nest of his own design which seemed to us admirable in its simple construction, although one critic complained of it that when he thumped the floor with his fist the sliding wood door did



SHOW BREEDING PENS.

not close—as if a hen entering the nest did so like a glancing cannon ball! It is, perhaps, unnecessary to add that Mr. Bell does not trap-nest his breeders, as does the ordinary utility man, in order to ascertain the laying capacity of each, but simply to identify each with the egg laid, every lot of eggs being subsequently kept separately; he has no ambition in regard to egg averages, and at the present time his interest in the subject is confined to the town of Street, where he has a pen of White Orpingtons in the laying competition. But we



THE "AVENUE," THE EXHIBITION HOUSE, AND OTHER VIEWS ON ST. LEONARD'S FARM.

must get on with our survey of the farm itself, with its many striking landscape features. Our first photograph shows a long avenue of birch and fir trees, sheltered by which a line of show pens runs the entire length. The ground is so laid out that every pen gets at least three months' rest, and the beneficial effect of this arrangement is obvious in the extremely healthy appearance of the land. A grassy pathway—there is grass everywhere on the poultry section of the farm—and a thick hedge separate the show pens from a rectangular row of houses and runs. There are fourteen pens in this row or block. Every house is divided into four, and each is ventilated on a scientific principle, the part of the house most exposed to the summer sun being hinged to open *upwards*, so that the birds can remain indoors and still be cool. The trees in these pens produce both shade and fruit. The section is known as the "Orchard," and Orchard and adjacent Avenue make a most attractive corner of the farm. Leaving it, we pass the end of the "High Street"—a lane of some width, running as straight as the high road itself, and showing at its far end a vista of the purple moor. There are houses and runs on both sides of the "High Street" to the number of about fifty, and on the left, as one looks up the "High Street," a block of breeding pens extends at right angles towards a woodland area, which for its wild beauty might have been transplanted *en masse* from the New Forest, to which, for that matter, it must once have belonged. This piece of ground is known as "The Pheasantry," and its peaty soil, together with the patches of grass and heather, the ample shrubs and fir trees, do justice to the title. It is used by Mr. Bell as a rearing ground, and surely no spot could have been found that combined better the safety of seclusion and the hardiness-producing elements of the forest life. From it leads yet another avenue—a broad fairway with pens to right and left, where birds of all three varieties are kept.

A large pigeon-house which Mr. Bell recently bought has been converted into a second show house for White Orpingtons. The house is whitewashed throughout, even the wooden pens being so treated; and more than we have space for might be written on the fact that birds with a tendency to yellowness benefit greatly during confinement here from the

colour influence on their plumage. Then there are cockerel houses on various parts of the farm. Mention should also be made of the washing and drying houses, heated with anthracite stoves, and of other matters in which St. Leonard's shows itself more than abreast of the times. Concerning the feeding arrangements, Mr. Bell relies upon his own experience and common sense, and one need only say that the food is all hand-mixed, with every regard for quality and cleanliness. A cooked soft meal is given in the morning and grain in the afternoon. One detail, however, as to its preparation should not be omitted. The corn-bin is opened at the bottom when the grain is required, with the result that the latter is drawn off quite fresh and that there is no accumulation of old corn at the bottom of the bin, as in those receptacles which are only accessible from the top. Of course Mr. Bell has his own recipes in foods and medicines, and, owing to the numerous inquiries—evoked by the health of his birds and their successes—that have been addressed to him on the subject, he has recently placed some of these on the market. For the same reason he has been constrained to supply houses and other appliances to those who would be content with no others; in which connection we recall having seen a capital oil engine of his, for sawing, grinding, and pumping. The fact that he makes virtually everything for himself carries with it the necessity of employing a large staff, and one is not surprised to learn that he has between twenty-five and thirty men always at work, of whom three are carpenters.

We have said but little of the present stock, and the omission is wilful, not accidental. One reason for it is that a good deal has already been said elsewhere; another that the stock has a most emphatic way of speaking for itself through its exhibition representatives, in witness whereof we may cite the black cockerel and the black pullet, which were conspicuous winners at the recent Dairy Show. A third reason is that we set out to do justice to Mr. Bell's farm rather than to catalogue the winners it has produced—Mr. Bell's own catalogue tells us of these, and we can recommend its study to every fancier in search of something good—and to record our general impressions of an enjoyable visit thereto. We can but trust that these objects have been partly, if not wholly, attained.



CLUBS AND SOCIETIES.

THE NATIONAL POULTRY ORGANISATION SOCIETY, LTD.

MEETING of Central Executive Committee was held at the offices, 12, Hanover-square, London, W., on Thursday, October 15, 1908. Present: Col. R. Williams, M.P. (in the chair). Members of Committee: R. Armitage, Esq., M.P., Cary Coles, Esq., E. T. S. Dugdale, Esq., Rouse Orlebar, Esq., and Col. V. Van de Weyer. Officers: Mr. Edward Brown, F.L.S. (Secretary); Mr. Verney Carter (Organising Secretary); and Mr. F. A. Hazlewood (Assistant Secretary).

Apologies for non-attendance were received from Lady Salisbury, Lady Keane, Miss Smith-Dorrien, W. Fitzherbert-Brockholes, and the Hon. Mrs. Wilmot.

Minutes of previous meeting were read and signed as correct.

Finance.—The monthly statement of receipts and expenditure was submitted and approved. Accounts presented for payment and cheques signed in accordance therewith.

Reports of branches and depots.—Devizes: The Secretary reported that the Devizes and District Poultry Society had been registered, which the committee formally approved. Swaffham: It was announced that the arrangements were nearly completed for the reopening of the Swaffham depot, which had been in abeyance pending its reconstruction. Bradley and Horningsham Depot: This depot had decided to apply for registration, which news the committee received with satisfaction.

Applications.—Various applications for assistance of the Society were submitted and dealt with.

Agreement with A.O.S. and other Societies.—Questions arising out of the future conjoint working were submitted, but were left in abeyance pending action by the Board of Agriculture in relation thereto.

Society's Journal.—It was resolved to change the publishing dates of the Society's Quarterly Journal to the 1st of January, April, July, and October respectively, commencing in January next.

Letter from Board of Agriculture *re* Transit of Live Fowls.—A further letter from the Board of Agriculture on this subject was submitted to the Committee, but no further action was taken.

Election of Members.—Three members of Council were elected and seven ordinary members, on the proposal of Colonel Williams, M.P., seconded by Rouse Orlebar, Esq.

MEMBERS OF COUNCIL.

Goodridge, Rear-Admiral, Rudgwick Fruit Farm, Rudgwick.

Humphreys-Owen, A. E., Glansevern, Berriew, R.S.O., Mont.

Sands, M. A., Ebrington Hall, Campden, Glos.

MEMBERS.

Bagge, Frederick, 345, Norwood-road, S.E.

Cowper, James, Craigforth House, Stirling, N.B.

Geen, J. W., 380, Central Market, E.C.

Love, John W., Royal Bank House, Catrine, N.B.

Maule, Mrs., 331, Crystal Palace-road, Dulwich.

Nationa, Walter, 110, Hampton-road, Redland, Bristol.

Nicholls, A. A., Caecwm, Huntington, near Kington, Herefordshire.

THE POULTRY CLUB.

ANNUAL ELECTION.

MR. J. HORN and Mr. H. Wallis, acting as the election sub-committee (since the retirement of Mr. Clarke) report that of 1,051 nomination papers sent out only 186 were returned, and of these fifteen were either late or unsigned.

The nominations were as follows:—

For President, 36; 34 refused to stand or were insufficiently nominated.

For Vice-Presidents, 103; 76 refused to stand or were insufficiently nominated.

For Hon. Solicitor, 5; 4 were insufficiently nominated.

For Hon. Sec. and Treasurer, 7; 5 were insufficiently nominated, and one refused to stand.

1,170 voting papers were sent out, 481 were returned, of which two were too late, eight not signed, six were altered and not initialled, thirteen voted for too many vice-presidents.

The voting was as follows:—

For President.—W. Clarke, 245; T. Threlford, 211.

For Four Vice-Presidents.—W. W. Broomhead, 339; F. J. S. Chatterton, 227; W. A. Jukes, 189; Rev. T. W. Sturges, 150; P. H. Bayliss, 121; O. F. Bates, 72; J. Wilkinson, 61; F. Bloomer, 44; J. Wharton, 40; Sir H. de Trafford, 38; G. E. Gush, 36; R. H. Melbourne, 32; C. Preston, 30; E. A. Cass, 27; T. Firth, 26; W. J. Harrington, 22; Rev. E. L. Jones, 22; J. Taylor, 21; T. Fawkes, 21; W. G. French, 19; Captain Payne, 11; W. Gandy, 11; A. W. Barrett, 10; F. R. Eaton, 9; A. L. Cook, 8; F. W. Smith, 8.

The vice-presidents retiring at September 30, 1908, are said to be Messrs. Bayliss, Chatterton, and Goode.

Mr. T. Duerdin Dutton as hon. solicitor and Mr. G. Tyrwhitt-Drake as hon. secretary and treasurer were elected without opposition.

JOHN HORN, Hon. Secretary.

HARRY WALLIS, Election Sub-committee.

[It may be pointed out that as Mr. W. Clarke is elected president his place as a vice-president has been filled by Mr. P. H. Bayliss.—ED. POULTRY RECORD.]

NOTES FROM CORRESPONDENTS.

IRISH NOTES.

By MISS MURPHY.

MANY of our readers were no doubt surprised at learning from the Editor's able article in the first issue of THE ILLUSTRATED POULTRY RECORD of the wonderful strides poultry culture has made in Ireland during the past few years. The diagrams given are specially clear and much more attractive to the average reader than the pages of a "blue book."

It is interesting to compare the number of birds to the acre in the different provinces. As may be expected, Ulster leads the way with 1'74, Connaught coming a close second with 1'03, while Leinster and Munster have respectively '95 and '93 birds per acre. Munster has made considerable progress in the year just ended, being only a little behind Ulster in the increase shown over 1906.

Limerick has at last fallen into line with the rest of Ireland, and is to have a poultry instructor. There is much uphill work to be done, but there are great possibilities, and some day we shall not be surprised to find Limerick one of the best poultry-producing counties in the province.

As a result of the examination in poultry-keeping, held at the Munster Institute on September 24, the Misses Horgan and O'Sullivan have been placed on the list of those qualified to teach poultry under County Committees of Agriculture in Ireland, while Misses Cassidy, Spratt, and Furlong have been approved of as teachers of poultry in schools of rural economy.

The continuous wet weather experienced during September and October has seriously interfered with the egg supply, with the result that prices are rather above the average of previous years. If the present bad weather continues chicken rearing will be greatly hindered, and a shortage of birds may be expected in the spring.

NOTES FROM WALES.

By A. T. JOHNSON.

FEW people can remember a better "back-end" for the rearing of late chickens than this one has been, and although there are not many rearers in Wales who systematically hatch and rear in autumn, there are always a lot of quite young birds about the farm yards and cottages. These, if they can be got well on their legs by November, stand a good chance of surviving until the new year, when they will realise rare prices. The flocks of young turkeys, which had a rough time of it on many a stubble this harvest-time, picked up wonderfully during the "Indian Summer" which followed, and are full of promise.

As an indication of how greatly the demand influences the price of eggs, one has only to observe the market in the vicinity of any popular Welsh holiday resort. During August twopence apiece for the best eggs was an average price. Then, as the number of visitors thinned down, with the approach of September, the price dropped to three-halfpence

each. But the more remarkable is the fact that when the great bulk of the holiday-makers went away, as they always do about the second week in September, the eggs which were hard to get at three-halfpence one day were going a-begging at a penny three days later. Does not this emphatically point out that the "accursed Sassenach" is after all a good friend to the struggling agriculturists of the Principality?

Now that the Rev. Lewis Jones (Heyope, Knighton, Rad.) is elected hon. sec. of the S. Wales branch of the Poultry Club, with a strong committee, it is to be hoped that fanciers generally will give him their united support. A very excellent start was made at Carmarthen, where Mr. Jones held his first meeting, and if the other counties of S. Wales do as well as Carmarthen has done the branch will be an exceedingly strong one.

Complaints against "deck sweeping" still continue to come in from all parts of Wales, and although there is a great deal to be said in favour of "open" shows, it is a little hard on the local exhibitor (who has often collected the prize-money and whom the show is intended to encourage) to see a cormorant from England, in the awful shape of a professional exhibitor, swoop down and carry off "First and Second" in every class throughout the show, as well as the silver cups, and other valuable prizes. That is what happened at Harlech and at Criccieth only a few weeks ago, and it has finally extinguished many Welsh shows.

The Denbighshire and Flintshire Agricultural Society which is one of the oldest in the country, being instituted in 1839, will hold its annual show next year at Colwyn Bay early in July, the exact date not yet being fixed. Lord Carrington (President of the Board of Agriculture) will be president, and the secretary, Mr. Tom Welsby, tells me that he intends making next year's poultry section in this important show a greater success than it has ever been.

SUSSEX NOTES.

By S. C. SHARPE.

THERE is perhaps no other county where chickens are reared to the same extent as in Sussex, and one often asks the question, why should this county produce so many more birds? Is it not possible to do the same in other counties? I might first point out that there are some parts of Sussex where very few, if any, birds are reared, whereas in other districts thousands of chickens may be seen at any time of the year; for the farmer, small holder, and cottager do not rear a few in the spring and summer and then leave off for several months—many of them have young birds hatching out every month of the year. The chief reason that this county produces more chickens than in other parts of England is, I think, greatly due to the people having a good knowledge of the work, for many of them have been born with the chirp of the chick ringing in their ears, and have from youngsters learned to toddle out with their mothers to feed the chicks; they have, therefore, been born to the

work and, like other professions, have in many cases grown up to like it. Again, in Sussex, especially in the eastern part of the county, we get a good outlet for crossbred chickens, the higglers or collectors coming right to the farm or cottage, taking the birds away and paying cash for them. Here we see the advantage of a good market. The birds which are reared in the spring of the year command good prices, making 6s. 6d. and 7s. per couple in April, and they are only small birds, many of them when well managed and well fed being sold at eleven to twelve weeks old.

I find as I travel up and down the county that each year the farmer makes more use of his stubbles for the growing chickens or the pullets which he has saved for stock. I see many farmers have again, this year, put the houses out on the wheat stubble, a fine run and a grand change for the birds; it saves the corn bill considerably, too. Small houses are useful for this purpose, they can be more readily moved. The birds are shut in the small "Sussex Ark," as these night houses are called, and two lads can carry house and birds quite easily. I consider the birds do a large amount of good to the ground, for they find and clear off much of the insect life which is always seen after a corn crop has been taken off. I am pleased to notice that along the coast small poultry keepers are in some cases working up a private trade in the towns—sending eggs, fowls, and ducks to Brighton, Eastbourne, Hastings, etc., every week, and where they do this and keep up a regular supply they keep a good trade together and make big prices of their produce.

TRADE NOTES AT THE DAIRY SHOW.

AN extremely interesting and instructive section of the Dairy Show was the capital display of poultry appliances, foods, medicines, &c., and difficult indeed to please would the poultry keeper be who was unable to find something that suited both his taste and his purse. While there were perhaps fewer novelties than in previous years, there were a large number of minor improvements, some of which were by no means of small value. The exhibits were, on the whole, excellently staged and well arranged.

Among the appliance manufacturers as distinct from those who specialise in foods, medicines, &c., the largest stand was that belonging to Mr. Randolph Meech, at which were exhibited several new lines of poultry houses, as well as his standard makes. One new feature is worthy of note, namely an arrangement for perches with a drop-board beneath. The birds while roosting secure an abundance of fresh air, but it is quite impossible for them to be in the direct line of draught. Another excellent stand was that of Mr. W. Tamlin, who showed to advantage his well-constructed houses, incubators, brooders, &c. Almost everything the poultry keeper wants he supplies, from a range of houses to leg-bands. Messrs. Spratts had a couple of stands, one for their well-known goods and another for the "Hearson" specialities. Special attention is devoted in another part of the paper to the new food "Laymor."

Mr. A. E. W. Phipps again won for the fourth year in succession the silver medal for his "Perfection"

incubator and a bronze medal for his "Alexandra" poultry house and scratching shed. Although produced at a very low figure, his houses appear well made, and strict attention is paid to ventilation and an abundance of light. Messrs. Gamage's, Holborn, had an extremely good stall, a special feature of which was their new brooder containing three separate chambers, one of which is heated by means of a copper tank. The heat is regulated by means of a thermostat. A special feature is the lamp, which can be lit from either the outside or the inside. Any who have tried to light a brooder lamp on a windy night will appreciate the advantages of this innovation. A special feature of their incubator is the drying-box, which is heated by means of pipes, whereby the temperature can be regulated to a nicety.

Messrs. Hobson, of Bedford, showed a large number of their well-known poultry houses, which are particularly suitable for farmers. They are capitally made and able to withstand the rough usage they generally receive upon farms. Messrs. Brown and Lilly, of Reading, showed some excellent poultry-houses, one of the best of which was the "Modern," the only objection to it being that it has a raised floor. The disadvantage of this is that it is liable to make the interior of the house somewhat draughty, but at the same time it affords an excellent shelter for the birds beneath. An effective stand was that belonging to the Allan Poultry Company, and while they did not show by any means all their appliances their incubator and brooder were exhibited.

The Middlesex Appliance Company, of Brentford, had an extremely effective stall, at which some new features were shown. A very excellent movable house was exhibited, besides incubators, brooders, &c. The workmanship of the goods turned out by this firm is worthy of much praise. A good stand was that belonging to Messrs. Finch and Fleming, of Amptill, who are the British agents for the Prairie State incubators and brooders. Their bone cutter was awarded a prize for the fourth year in succession. The "Gem" specialities, manufactured by Mr. W. J. Goddard, were much in evidence, and they included incubators, brooders, houses, bone cutters, and an excellent device for moving portable houses called the "Gem" Simplex Swinging Axles. An excellent stand was that belonging to the Cyphers Incubator Company, at which their excellent machines were shown to advantage.

Mr. Harry Hebditch was successful in obtaining second prize with his brooder, one that is extremely well made on a good principle. Great attention is bestowed upon the point of ventilation, a plentiful supply of fresh air being at all times available for the birds. The Westmeria brooder secured first prize, and we were pleased to note several important improvements over previous years. This is now one of the best brooders on the market, as the utmost pains have been taken to provide a first-class article, built upon strictly hygienic lines, at a comparatively small cost. Mr. Lea, of Southport, exhibited his "Triumph" incubator and brooder, machines that appear well made and constructed on scientific principles. Mr. Arthur Neaverson showed his houses and crops, the latter of which has a special arrange-

ment for protecting the inmates from the wind. Robinson's Patent, Ltd., had a prominent stand, where were shown their chief lines of egg-boxes. These are strongly made, and if the directions are followed in packing a broken egg should be unknown. A collection of poultry appliances appertaining specially to rearing and feeding was shown by Mr. J. Service, while Mr. Snell, of Yeovil, made a special show of self-cleaning coops and houses. These are made on sound lines and should assist very materially in reducing the labour of cleaning. Mr. H. W. Stephens exhibited the "Glevum" non-moisture incubators, as well as many other appliances, and Mr. Taylor made a very effective show of bee and poultry goods. Mr. T. P. Bethell, of Liverpool, was prominent with a varied assortment of egg boxes; and Mr. Baker, Holloway, London, showed an excellent box fitted with springs. Egg boxes and packages were also shown by the Dairy Supply Company and the Dairy Outfit Company. Some excellent kinds of fencing were exhibited by Palmer and Co., Westminster, and the Economic Fencing Company, of Billiter-street, E.C.

Food and medicine manufacturers were very

numerous indeed, and nearly all the well-known firms were represented. Messrs. Armitage Bros., of Nottingham, showed their chicken and game foods, and Messrs. Ashby and Sons their poultry and pigeon foods. Mr. W. M. Pell, of Ringwood, was there with his meals, grits, and roup powders, as were Messrs. W. Cook and Sons, of Orpington House, and Mr. W. H. Cook, of St. Paul's Cray. Mr. J. H. Dixon Jenkinson, of Birmingham, had an interesting stand, at which were displayed his medicines and small appliances. The Liverine specialities were well represented, including "Chuck-chuck" and "Livo" foods for chickens. The Old Calabar Company exhibited their well-known foods, including their "Chicala" meal. A very nice stand was that belonging to Mr. J. C. Phipp and Co., of Moreton-in-Marsh, and the quality of their various goods seemed extremely good. Messrs. Proud and Brown, well-known food and medicine specialists, made a very excellent show, and their stand awakened a good deal of interest. The "Victoria" foods were well to the fore, as was Messrs. Thorley's "Ovum." Messrs. Thorpe and Sons, of Rye, exhibited their poultry and game food, including the "Cock-o'-the-Walk" egg-producing meal.

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